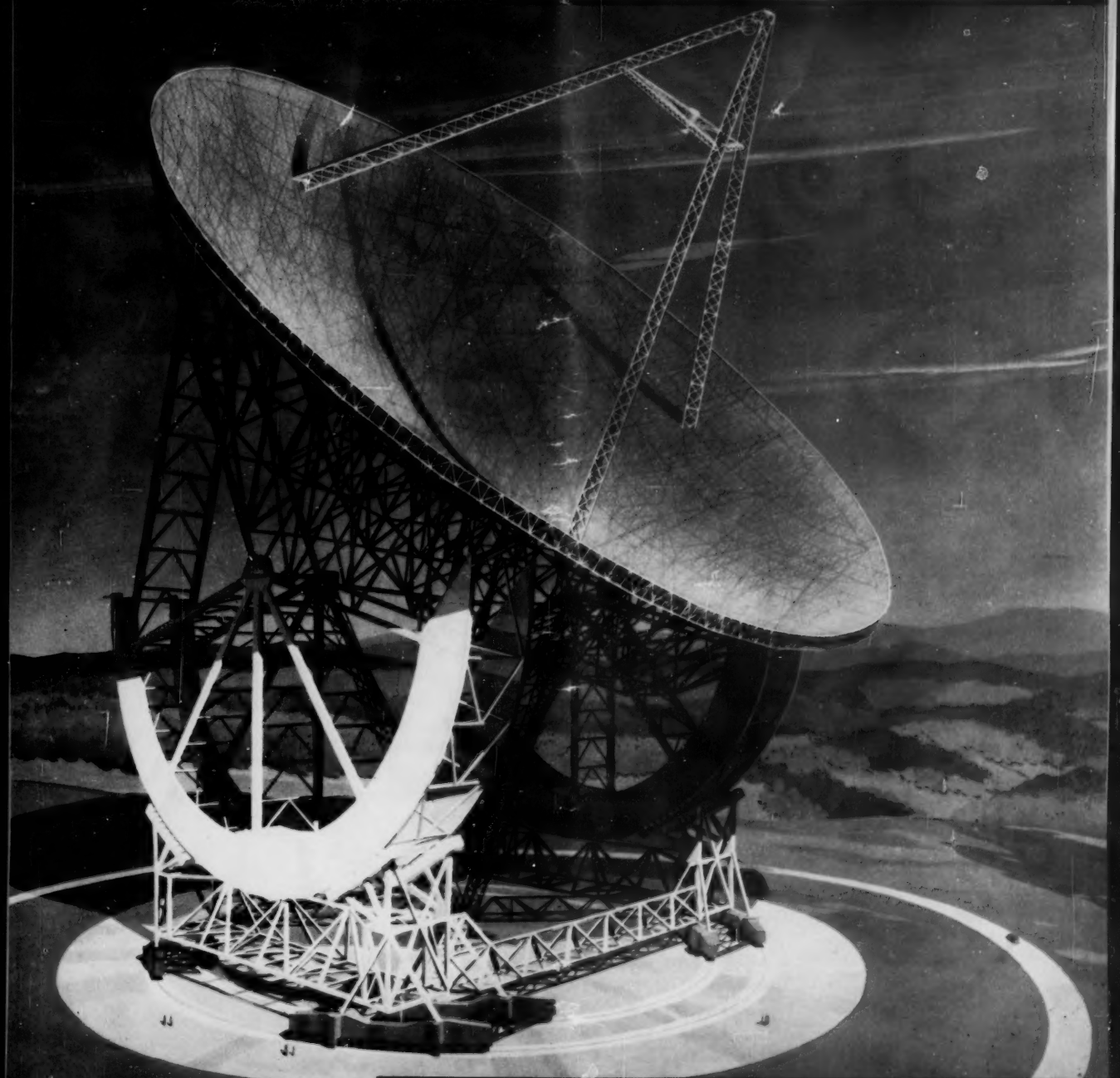
THE MAGAZINE OF

Standards



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NOVEMBER 1959

THE MAGAZINE OF

Standards

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

VOL. 30 NOVEMBER, 1959 No. 11

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The Front Cover: The relationship of military and industry development and use of standards was the question most frequently discussed at the Standards Engineers Society's Eighth Annual Meeting at Boston, September 20 and 21. Here is a dramatic example of the range of military activities in an artist's conception of the world's largest radio telescope, being erected by the Navy for completion in 1962.

ASA

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Standards Engineers Society—Eighth Annual Meeting 324

Presentation at this meeting of a charter to a new section just organized in the United Kingdom marked expansion of the Society beyond North America. The philosophy of standards, education of standards engineers, the relation of standards to research and management, and industry-military relations were featured.

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Early this year a marketing specialist challenged U. S. industry to apply engineering techniques to marketing. This is the only hope for continued growth of the American economy in the face of the Soviet challenge, Fenton B. Turck, first chairman of the American Society of Mechanical Engineers' Management Division marketing group, told a meeting of marketing authorities. "Through the application of engineering techniques we have solved the problem of increased industrial output; now we must apply the same engineering approach to that vast area of our economy known as marketing or distribution," he said.

An important step has now been taken in meeting Mr Turck's challenge. This is publication of the new American Standard Sizes of Pallets, MH1.1-1959 (see page 332). As shown in the graphs which are part of the appendix to the standard, and two of which are included in the article in this issue, the engineering methods applied have made it possible to show users of pallets how to make the most efficient use of the shipping space available.

Mr Turck told the ASME group that nearly 60 percent of the cost of consumer products can be attributed to cost of distribution. Mr Wiltrakis, author of the article in this issue, told the National Conference on Standards that possibly 80 percent of the total economy of the U. S. is in price of distribution.

Use of the new American Standard sizes for pallets is a significant step toward reducing these high distribution costs.

Even more notable is the fact that the new pallet standard is only one of the projects on materials handling and packaging under the procedures of the American Standards Association. Nine projects are now under way with the special designation "MH." ASA recognized the importance of the new field represented by these projects when it authorized use of the MH designation. This sets the materials handling projects apart as a special activity and opens the way for organization of a Materials Handling and Packaging Standards Board to supervise this entire new field of standardization.

This Month's Standards Personality

LEON PODOLSKY, known internationally as an authority on electronic components, has won the high esteem of all who work with him. His driving energy, high grade of leadership, and the understanding and sympathy for others that are his outstanding characteristics, have produced impressive results in his business as well as in his work with standards committees. Mr Podolsky entered the electronics field in 1929 as an engineer for the Victor Talking Machine Company and RCA Victor Company. He is now technical assistant to the president of the Sprague Electric Company, and a principal of a recently organized consulting firm known as Electronic Consultants, Inc, located in Pittsfield, Mass.

In 1956 Mr Podolsky was awarded the coveted Radio Fall Meeting Gold Plaque "for his outstanding contributions to international standardization in the field of components for electronic devices." This referred to his work as technical advisor to the United States National Committee of the International Electrotechnical Commission in connection with IEC TC 40, Component for Electronic Equipment, and its subcommittees. In recent years he has led the U. S. delegations at the meetings of this committee, including the 1959 meeting in Ulm, Germany.

In U. S. standards work, Mr Podolsky is chairman of ASA Sectional Committee C83, Electronic Components, and represents the Electronic Industries Association on ASA's Electrical Standards Board and Standards Council.

He is chairman of the International Standards Committee of the Electronic Industries Association and of the EIA Component Parts Panel. The large and active group of EIA committees responsible for continually reviewing and commenting on Department of Defense MIL specifications and for issuing EIA component standards report to the Panel. Where appropriate, EIA standards are then referred to the American Standards Association for approval. Under Mr Podolsky's leadership, the Component Parts Panel has just been reorganized, in a far-sighted program which provides a commercial group to correspond to each engineering group in the committee setup.

As with most very busy men, Mr Podolsky's interests are unusually broad. For some time he was president of the Greylock Broadcasting Company of Pittsfield, Mass. He started a TV station which he personally supervised both in its construction and in its early operations. He is vice-president of a printing company; and he devotes some of his time to the cause of education as trustee of the North Adams Teachers College and as a member of the advisory committee for the Pittsfield Technical High School. Mr Podolsky is a Fellow of the American Institute of Electrical Engineers and of the Institute of Radio Engineers, and a member of the American Ordnance Association and the American Association for the Advancement of Science. He is a Professional Engineer, holds many patents, and is author of numerous technical papers.

Overtopping even his interest in photography, a long-time hobby, is his love for his principal hobby—his two small grandsons, with whom he spends as much time as he can steal from his busy life.

STANDARDS ENGINEERS SOCIETY EIGHTH ANNUAL

THE EIGHTH ANNUAL MEETING of the Standards Engineers Society, held September 21 and 22 at Boston, Massachusetts, inaugurated Standards Engineers Week, proclaimed by Massachusetts Governor Foster Furcolo in honor of the Society.

The relationship of industry to the military played a large part in the program, which featured philosophy, research, education, and management in standardization.

Of historic importance to the organization of standards engineers was presentation of a Standards Engineers Society charter to the United Kingdom Section—first SES section outside North America. The charter was presented to G. G. Elms, Rolls-Royce Limited, England, on behalf of the new section. A charter was also presented to the new section in Cleveland, Ohio. This brings the number of the Society's sections to 16.[1]

Fellowship awards and service awards were presented to a number of outstanding members of the Society. Among the recipients was John W. McNair, technical director of the American Standards Association, who was awarded a Fellowship. C. L. Miller, chief engineer, Standardization Division, Office of the Assistant Secretary of Defense (Supply and Logistics), and H. P. Westman, editor, *Electrical Communication*, International Telephone and Telegraph Company, also were named Fellows. Jan Ollner of Sweden had already received a Fellowship award this year during the meeting of the International Electrotechnical Commission at Madrid, Spain.[2]

Willis S. MacLeod, director, General Services Administration, Federal Supply Service, received the SES-ASTM Service Award for his leadership in coordinating industry and government standards. Mr MacLeod has been active in the work of the American Standards Association for many years and is now a member of the ASA Standards Council as well as of several of the ASA standards boards.

Special Service Citations for their long and effective service to SES were presented to C. W. Bowler, standards engineer, Leeds & Northrup Company, and to Fred M. Oberlander, administrator, Materials Standards, Radio Corporation of America. Mr Bowler was author of the Society's first constitution and was national secretary and membership chairman. Mr Oberlander was first editor of *Standards Engineering* and national chairman of the Publications Committee.

In opening the meeting, Franklin E. Powell, general standards branch, Department of the Army Logistics Staff, Washington, D.C., president of the Society, told the members that the future will demand optimum standardization—standardization that offers real economies, but not standardization for the sake of standardization. Standards engineers have a responsibility in developing the future, he declared, since they are "engineers in applied science."

Dr Ivan A. Getting, vice-president of engineering and research at Raytheon, in his keynote address emphasized the function of standards as a means of communications —not only in words that mean the same to all but also in use of numbers, and in graphs and charts as well.

To give young engineers of the future the best background for effective service, he asked: Should they be given a basic scientific background, with the practical

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[1]Headquarters of the 16 SES sections are in Binghamton, N.Y.; Boston, Mass.; Chicago, Ill.; Cleveland, Ohio; Detroit, Mich; Hartford, Conn; Hamilton-Toronto, Ontario; Los Angeles, Calif.; Montreal, Quebec; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.; Syracuse, N.Y.; Washington, D.C.; United Kingdom.

[2]Page 281 of the September 1959 issue of THE MAGAZINE OF STANDARDS shows a picture of Jan Ollner receiving the Standards Engineers Society Fellowship certificate. Mr Ollner is manager of the standards department of ASEA (Allmänna Svenska Elektriska Aktiebolaget). Mr Ollner was formerly secretary of Svenska Elektriska Kommissionen, the Swedish National Committee of the International Electrotechnical Commission.

MEETING

training left to industry, or should details of the student's immediate field of engineering be emphasized? He answered his question by outlining three principles as the basis for engineering education:

(1) Every engineer should be trained in the science and mathematics basic to his field.

(2) Every engineer should be given intense training in his own field of engineering. He should be sufficiently profound in at least one area of engineering to develop a sense of values as to what is needed, Dr Getting believes.

(3) Every engineer should be taught to express himself, not only in the use of the English language, consistent with the engineering field which he is entering, but also in the use of mathematics and the graphic arts.

Engineering efficiency can be affected tremendously by the attitude of young engineers toward engineering standards. Many hours of time and dollars of expense can be saved if the young engineers appreciate the value of making use of experience that has been made available in engineering standards, Dr Getting pointed out.

The executive's viewpoint on standardization was discussed by Brigadier General Charles E. Jung, Dayton Air Force Depot, Ohio. The Air Force uses engineering standards and technical specifications that represent the best practice but that are militarily practicable, General Jung pointed out. Air Force standards are high, since extreme reliability is essential. Three types of standards are recognized and used, General Jung explained: Organizational standards which cover the functional alignment of the business or activity; production standards, which define the cost and quantity output of products within a given time element; administrative standards, affecting office management and personnel.

To provide the proper environment for control of humidity, temperature, rigidity, and stability in measuring

ABOVE: SES President Franklin E. Powell presents charter of the newly organized United Kingdom Section to G. G. Elms.

BELOW: Dr Ivan A. Getting presented the keynote address at the SES Eighth Annual Meeting

and calibrating airborne instruments and equipment required by the Air Force, a special laboratory has been developed, General Jung pointed out. The Air Force manages 320,000 items, with an average increase of 4,000 new items per month, and disposes of less than 1,000, he declared. One of the most difficult management problems is repair. Development of a master repair schedule covering the overhaul of unserviceable equipment was cited as an example of successful management control of a complex operation. Repair contractors have adopted the procedure successfully, General Jung reported.

In personnel management, standards help to gage performance and guide management as to whether goals are being met. In personnel management, however, General Jung pointed out, standards are useless unless proper consideration is given to the personnel affected.

The consumer's stake in standardization was discussed in a paper by Dr Colston Warne, president of Consumers Union, which was read by Morris Caplan, CU's technical director. Dr Warne declared that when it comes to standards for consumer goods we seem to be in "a sort of social time lag." Development of standards for goods for consumer use is long overdue, he said. He pointed to ethical drugs, grocery products, and tires as three examples of the need for standards.

Dr Warne believes that the present trend toward use of brand names by physicians in writing prescriptions represents a retreat from a hard-won victory. There has been no field of standardization in which the consumer has had a greater stake than in the U.S. Pharmacopoeia, one of the oldest standards in use, he said. Until recently the Pharmacopoeia was the professional bible of the pharmacists. However, the present trend toward brand names has caused inevitable disorder, with druggists stocking nearly 27,000 items of which only 8,800 move in a month. Dr Warne believes that quality control in drugs may be in jeopardy, since, substandard drugs, many of which are potentially harmful, have appeared.

The explosion of brands of grocery products is causing a battle for shelf space in retail stores, he said. For example, in 1955 there were 326 brands of oleomargarine, whereas last year there were 556. He mentioned tests of "hot dogs" in the Los Angeles market as indicating the need for standards that make it possible for the consumer to buy intelligently. Twenty-eight brands accounted for 90 percent of the sales, he reported, the protein content varying as much as 60 percent, and the fat as much as 100 percent and more. He believes that disorder is so widespread that quality designations may be resorted to as an aid to the retailer.

Ads in the news seem to indicate that standards exist for tires, described as first line, second line, and third line, Dr Warne declared. However, he reports, tests indicate that second line tires in some cases have given better performance than first line, with no relation between price and performance. As a result, this year tire dealers of Illinois have called for government-enforced grades for tires, he said.

Dr. Warne called on manufacturers and retailers, as well as technical groups, to provide a climate in which understanding by the consuming public is one of the most important ingredients. Consumer goods testing organizations are being established throughout the world, he reported.

Standards and specifications would provide the now missing common language, particularly if everyone interested in standards carries standardization down the line to the consumer, he declared. The consumer himself can make his best contribution by first becoming aware of existing standards and then making them

Former SES President Madhu Gokhale presents Special Service Citation to C. W. Bowler (right)

A. H. Mogensen, Work Simplification Consultant, speaking at the meeting

known to the retailer and to the industry, he said.

In the session on management, I. J. Chapel, Arma Division of American Bosch, explained how his company uses data processing for making engineering standards available throughout the company. The most efficient means of making the standards book available, he claims, is to reduce all drawings to 35-mm slides. Each design engineer then is given a slide viewer and copies of the slides in his field. For publication in the standards manual, the slides reproduce in 8½ x 11 in. size. The slides are mounted in an aperture on a punched card for ready reference. Also, index cards are prepared giving the principal characteristics of standard parts so that a rapid review of the characteristics may be made.

Mr Chapel showed by means of slides how a project planning and release data system would be organized. It takes about two years to get such a system into working shape, he declared in reply to a question from the floor.

Speaking on standardization versus engineering creativity, Rowen Glie, W. L. Maxson Corporation, chairman of the Society's New York Section, pointed out that the truly creative engineer does not rebel against convention. Rather, he uses all available technical background material to push forward, building on whatever existing standards are applicable. To prove this thesis, Mr Glie reviewed the efforts of many creative individuals. The pattern of their development of a new conception was as follows: (1) They became fascinated with a problem. (2) They saturated themselves with all knowledge on the subject. (3) They organized their ideas and built on the background they had absorbed. Often in the process, ideas might spring from a subconscious level at the precise occasion to produce a desirable conscious action.

Opposed to the truly creative individual was a young and enterprising engineer, cited by Mr Glie, who created a new dowel pin. The new pin did nothing more than a standard dowel pin, but it cost twenty times as much. Mr Glie concluded that an engineer cannot afford to be a nonconformist. If he is to be truly creative, he must conceive new ideas based on knowledge accumulated in the past.

The medium-price field is being taken over by industry in such countries as Japan, Germany, and Holland, said A. H. Mogensen, work simplification consultant, who discussed the relationship of work simplification to standardization. In his opinion, work simplification is U.S. industry's answer to the competition offered by the lower priced goods being turned out in these other countries. No longer, he pointed out, does low quality mark competitive products from Japan. In the case of ball bearings, the Japanese bearing industry has set up a quality control board which guarantees the quality of the bearings the industry produces.

The work simplification program to which Mr Mogensen refers is not simply motion study, he explained. It is a philosophy which in his opinion might help to bring about greater acceptance of standards work as well. He believes that work simplification programs will help American industry compete with industries in other countries by taking full advantage of the increasing industrial tempo due to mechanization, automation, and big research programs.

He defined work simplification as the organized application of common sense to the process of doing work. Inferior quality, high cost production, slow development, and poor production rates he ascribed to the lack of work simplification methods.

To achieve success in the simplification of work procedures, Mr Mogensen advocated the following program:

1. Develop and teach a philosophy of work simplification by study, instruction, and by inviting all employees to participate.

2. Investigate all operations by such means as motion pictures to secure a factual basis of analysis.

3. Analyze operations, challenging each detail.

4. Select or develop a preferred method.

5. Institute the preferred method making certain that it is applied correctly.

Instead of two lines of production, one for military items and one for industrial and ultimate consumer items, every effort must be made to bring these two lines together, Cyril Ainsworth, deputy managing director, American Standards Association, told the standards engineers.

The major responsibility for doing this seems to rest with industry, he said. Industry has the technical knowledge, the production experience, and manufacturing know-how, while the military know the items they need and their characteristics, he explained.

The Department of Defense, "largest corporation in the world," has a normal consumer relationship with all producer organizations in the country and, therefore, its standardization program is of great importance to industry because it establishes the definitions, characteristics, and requirements of the items industry sells to the military. On the part of the Department of Defense, Mr Ainsworth said, there is a genuine desire to obtain the ideas of industrial and professional organizations concerning any standardization problem facing the military.

He suggested that industrial or professional organizations take responsibility for four types of action: (1) Weld together industrial and military needs so that a single standard or specification will serve both groups. (2) Review existing military standards and specifications to recommend revisions based on new technology, industrial production techniques, and industrial consumer experience. (3) Encourage participation by the military in the development of industrial standards and specifications, and consider use of the all-parties-at-interest

procedure of the American Standards Association. (4) Move a larger proportion of standards and specifications through ASA for approval as American Standard.

G. G. Elms, assistant to the chief standards engineer, Rolls-Royce Limited, England, described the Rolls-Royce company as a producer of automobiles, aero engines, diesel engines, rocket motors, and nuclear reactors. Founded in 1906, its philosophy has been that a successful design is based on infinite attention to detail. Standards did not play a large part in company operations until the second world war. Mr Elms pointed to the fact that only two people comprised the Standards Section in 1937.

When manufacture was dispersed to the United States during the war, difficulties arose because of the following: (1) use of a system of first angle projection on drawings instead of the American third angle projection, (2) use of a modified Whitworth screw thread, (3) the practice of relying on manufacturing know-how in the shops rather than including details on drawings or in specifications, and (4) the wide use of special materials.

At the present time, 33 people are included in the Standards Section associated with aero engine development. It has been found that national standards are not generally applicable for aircraft usage so many standards have had to be developed. Considerable use is made of American aeronautical standards. Standards are collected in four volumes covering (1) design features, (2) processes, (3) materials, and (4) drafting standards. The fourth volume is still under development.

Mr Elms described a number of standard design features introduced by Rolls-Royce. These included a standard section for sheet metal stiffeners, truncating male threads to the crest radius tangent point, and employment of a fine thread in light metals.

An alpha-numeric coding system composed of six symbols is employed in the identification of standards. This is designed to permit a rapid check of drawings that may be applicable in a particular case. Experience has disclosed that only if a standard part can be located rapidly and easily at some later date is there any cost reduction through standardization, he said.

John J. Dunn, Department of Defense, speaking on the management of engineering data within the Department of Defense, complimented Mr Ainsworth on his understanding of the Department's efforts. The prime user of the standards developed by the Defense Department is industry itself, he commented, pointing to the fact that from 75 to 95 percent of all military items are developed and produced by industry. At the present time, however, he pointed out, there is no good means of making available the knowledge represented on drawings. In many cases this represents the newest knowledge. In Mr. Dunn's opinion one of the most urgent problems is to improve the exchange of information in this band of knowledge.

MIL-STD D-73027 covers procurement of engineering drawings, he pointed out. In addition, a great number of projects are now being established to supplement and improve the administrative management of engineering drawings. For example, a system has been set up to expand micro-reproduction of drawings.

Among the projects being planned by DOD are de-

Willis S. MacLeod (left) receives SES-ASTM Service Award from William L. Healy, past-president of SES

Chester A. Nazian, Army Ordnance, reviewed new MIL standard on drawings

velopment of a uniform drawing control system to improve interchange of information among departments; development of a list of materials and data; uniform requirements for technical manuals; establishment of uniform requirements for storage and protection of drawings; establishment of uniform drawing numbers; technical data sheets containing photographs and enumeration of engineering characteristics of the item being prepared; and systems for automating this type of data.

A committee of industry representatives with representatives from the Department of Defense, Supply and Logistics and Engineering, is now on the point of submitting reports for improvement of technical documents for electronic components, Mr Dunn said, and an accelerated program is being studied for revision of specifications in the electronics area. Mr Dunn expressed the hope that some of the technical documentation required can be prepared by industry. He called for greatly enlarged machinery for handling standards in the Defense Department.

Chester A. Nazian, Army Ordnance, reviewed the development of military specification MIL-D-70327, and called attention to the fact that officers of the Standards Engineers Society played an important part in the work. This now offers one document in place of 31 for use in procurement of engineering drawings by all agencies of the Department of Defense.

The new standard defines for the first time the types and classes of drawings to be acquired by the military, establishes a single drawing numbering system utilizing the manufacturer's identification code, and prescribes a uniform minimum set of rules to be associated with security drawings. Two classes of drawings are prescribed: (1) design activity drawings; (2) contract design activity drawings.

Contractors are required to assure the subvendors and subcontractors also comply with the specifications, Mr Nazian pointed out.

In an interesting discussion in which he made reference to numerous examples, Harry K. Sedgwick, Raytheon Company, pointed out that military specifications should be improved in many ways.

Mr Sedgwick made the following recommendations to the U.S. military departments:

1. Define technical requirements only in the form of specifications or sheet form standards.

2. Insure that a part number identifies a single item.

3. Eliminate type designations and complex descriptions in favor of part numbers.

4. Provide uniform titles, a single index, and direct distribution of the index to industry.

5. Adopt a realistic policy for the application of military specifications in design and procurement.

6. Establish meaningful requirements with proper tolerances on the values and with test conditions which match the values.

Brigadier General Charles E. Jung spoke on the executive's viewpoint

Adoption of his recommendations would provide more defense in shorter time for fewer dollars, said Mr. Sedgwick.

One of the unique features of the meeting was a "buzz session" at which those attending the meeting were given an opportunity to get together in small groups to discuss the ideas presented at the conference. A moderator assigned to each group presented to the panel the principal questions asked by his group. These ranged from "need all military drawings be up-dated and revised to conform to MIL-D-70327" to "how can technical information be secured from suppliers to the military departments?"

"Being professional" was the subject of a talk at the Awards Luncheon by Professor Emeritus E. H. Schell, formerly head of the Business Administration Department of the Massachusetts Institute of Technology, and now retained as consultant to the School of Industrial Management. Professor Schell pointed out a number of standards by which to judge a professional man:

(1) Ability to explain ideas simply

(2) Ability to perform easily and effectively

(3) Ability in areas of common knowledge

(4) Unwillingness to accept mediocre counsel

(5) Acceptance of responsibility to the national welfare

(6) Adherence to professional standards, including a deep humility before the truth, whatever the truth may be

(7) Maintenance of standards despite personal loss

(8) Support of a code of ethics

C. E. White, chief of a Laboratory Measurement Section, AVCO, speaking on the two faces of standards, said that standards mean standards of measurement to him. He described the scope of his work, contrasting it with work on engineering standards, which he considers the other face of the standards picture.

The primary function of Mr White's laboratory is to furnish reference standards to which working or secondary standards may be compared. In addition, the laboratory provides calibration services for secondary standards.

Mr White summarized the interrelationship of the standards groups and the function of the Measurements Standards Group as follows: Specifications, instructions, and procedures are the framework upon which all end items are erected. The reliability of the item is dependent upon the applicability of the paper work. Lack of experience, insufficient grasp of instrumentation frailties, little knowledge of measurement techniques, small awareness of the accuracy limitations—all contribute to a finished product of dubious reliability and poor quality. The staff of the modern industrial standards laboratory is aware of the limitations of measurement devices, the susceptibility of adverse environment, limitations for combining into measurement systems, methods of attaining and retaining rated accuracies.

Standards for effective reporting were discussed by Robert R. Rathbone, Massachusetts Institute of Technology. "We must provide standards that will guarantee the nonstandard," he said. Engineering reports must be clear and concise if all conclusions are to be absorbed by the reader, he pointed out.

Professor Rathbone recommended three standard practices:

1. A preliminary editorial conference at which the engineer is briefed on report requirements and on such factors as the readers to whom the report will be directed, the reason they want the information, and the intended use of the information.

2. Preparation by the writer of a statement in a sentence or two to serve as a guide to his writing.

3. Preparation of an outline in depth, including entries of all topics that will form the building blocks of the report.

To improve the presentation of the meaning in a report, Mr Rathbone suggested development of a General Style Manual by the Standards Engineers Society and other societies such as the Society of Technical Writers and Editors. In addition, he considered it necessary for individual companies to display their own style manuals to cover information peculiar to the company.

Dr John Gaillard, consultant on industrial standardization, presented the basic definitions for the concepts "specification" and "standard" as discussed in his article in the August 1959 issue of THE MAGAZINE OF STANDARDS, page 238.

ABOVE: Richard G. Munroe, SES vice-president, was general chairman of the annual meeting

BELOW: Russell L. Keene, chairman of the SES Boston Section, host section for the meeting

Ray C. Ellis, Raytheon Company, speaking on industrial Russia today, stated that he first went to the Soviet Union 14 years ago. Early in 1959 he visited Russia a second time—on this latter occasion as a member of a technical exchange team. He reported that there is now a full-blown research and development program for electronics in the Soviet Union. The over-all plan is laid out by the Soviet National Academy of Sciences. Several hundred universities participate in implementing this plan.

The Russians were about five years behind us in electronic techniques 14 years ago, Mr Ellis estimated. Progress has been made in the interim, he said, but there are still many modern elements lacking in their endeavors.

Mr Ellis suggested that improperly applied standardization has caused some stagnation of progress. For example, components which were developed ten years ago are still being used in Russian home radio sets. Because of this misapplied standardization, few advanced components are available for such consumer products.

In general, Mr Ellis believes the Soviet Union has the manpower and the technical capacity to excel the U.S. in many areas of electronics, but these assets are still spread rather thinly. For instance, there are perhaps 700 Russian engineers now working on the problems involved in color TV. Most of the technical problems in this medium have already been solved here in the United States. However, each year the Soviet is graduating three times as many engineers as the U.S.; this is cause for some serious consideration from the viewpoints both of military rivalry and of commercial competition.

Highlights of the Eighth Annual Meeting were analyzed by Richard G. Munroe, Raytheon Company, vice-president of the SES. Mr Munroe noted that some of the speakers strongly emphasized that we do not manage our resources as well as we might. Each manager, regardless of his level in the managerial hierarchy, is the guardian of resources, both material and human. To be an adequate guardian, not only must the manager effectively utilize the resources available to him but he must protect them from erosion, he commented. For this he must depend upon many factors such as research, training, and standardization. The shaping and improving of the managerial tool called standardization is an action in which the Standards Engineers Society has a primary responsibility, Mr Munroe believes.

NAMED SES FELLOW

John Wilson McNair, Jr

Citation

A graduate of the University of Virginia as an electrical engineer, he early entered standards work through an assignment with the National Electric Light Association, in which he was concerned with the National Electrical Safety Code. Shortly thereafter he became an assistant on the staff of the Standards Committee of the American Institute of Electrical Engineers where his first work was in the development of what is now the American Standard Definitions of Electrical Terms. When the American Engineering Standards Committee became the American Standards Association in 1928, he became Electrical Engineer on the staff serving the standards committees and the correlating committee in the electrical fields. As the work of ASA expanded, so did his responsibilities, embracing acoustics, wood poles, radio, optics, electronics, and photography. At the same time he served as Secretary of the U.S. National Committee of the International Electrotechnical Commission. Through this activity he has become a familiar figure at meetings of the IEC, where his views are highly respected.

During World War II he was in charge of the work of the ASA War Committee on Radio and the War Committee on Photography and Motion Pictures, which undertook standardization services for the Armed Forces under contract with the War Production Board.

In 1954 he was appointed Assistant Technical Director of the ASA and in 1958 he became Technical Director. Throughout his career, his leadership, technical competence, and integrity have typified the best qualities of an outstanding standards engineer.

Because of his long and important work in Standardization in the United States and in the world, the Standards Engineers Society confers the grade of FELLOW on John Wilson McNair, Jr.

Signed

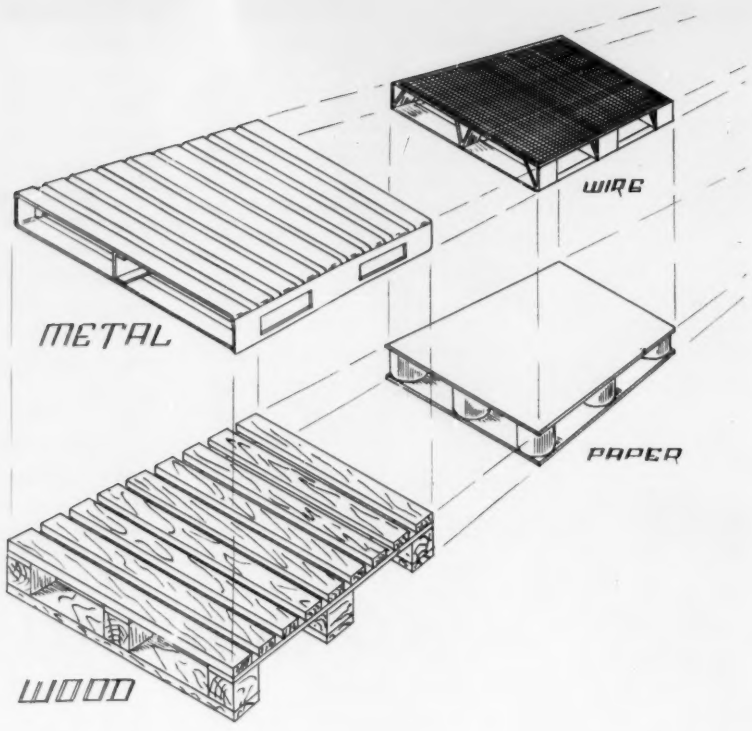
Franklin E. Powell, President
Jean A. Caffiaux, Secretary

September 22, 1959

Herbert J. Arlt, SES past-president, presented the Fellowship Award to John W. McNair, Jr

New American Standard Pallet Sizes

by J. E. WILTRAKIS



EVERYTHING WE STORE is supported by something; everything we move is supported by something. A pallet is a device to support one or many objects or materials; a base for assembling, storing, and handling materials in a unit load.

Pallets should be used where mechanical handling is facilitated, where space can be be saved, where packing costs can be reduced, where products can be assembled on conveyors; in other words, when over-all distribution costs can be reduced in the factory, carrier, or store.

Pallets reach greatest effectiveness when applied in a system as a standard device suitable for a multiplicity of current and future products. Products change, but the pallet need not necessarily change.

On August 25 of this year, the American Standards Association approved the American Standard Pallet Sizes, MH1.1-1959[1]—the first American Standard which touches on the fundamental design of materials-handling systems.

The standard provides a series of 11 pallet sizes: eight rectangular and three square. It also includes the criteria used in selecting standard sizes. The principal objective as stated in the standard itself is: "selection of the minimum number of sizes of pallets for noncaptive use which will provide the maximum of efficiency, economy, interchangeability, and flexibility, especially when used in U. S. rail, truck, maritime, and air transport services." The standard applies to pallets, irrespective of the type of material used, i.e., wood, metal, paper, etc.

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A pallet is defined in the standard as a horizontal platform device used as a base for assembling, storing, and handling materials in a unit load. Noncaptive pallets are those "whose cycles extend through one or more enterprises (private, corporate, or military) . . ." This usually includes a common carrier service.

The new standard sizes were selected as those which will provide for the many situations in industry, explains Fred Wiley, chairman of Sectional Committee MH1 on Standardization of Pallets.[2] "Particular emphasis was given to fitting pallets to the sizes of current carrier equipment," Mr Wiley says. "The sizes included four under consideration by the International Organization for Standardization as well as those in use by companies and the military services.

"The standard represents the first step in the establishment of a complete pallet standard which will include additional definitions, common material usage, and evaluation or performance testing.

"Benefits should be realized by producer and con-

[1] Copies of American Standard MH1.1-1959 are now available from ASA at $2.00 each.

[2] Sponsored by the American Society of Mechanical Engineers and the Society of Packaging and Handling Engineers.

sumer alike toward perpetuating an increasingly efficient American industry."

The eight rectangular and three square pallets were finally adopted, despite the fact that there were some strong proponents for one pallet size only. From our reports of standardization work in European countries and discussions with their representatives we could understand their views regarding one pallet size. The Swiss National Pallet Pool, established in 1952, is universally used in that country. It is possible now, in 1959, to obtain a freight car with pallets in nine European countries just as we request a damage-free car with dunnage devices in this country. A 32 x 48-in. size is used in most cases.

[EDITOR'S NOTE: An International Pallet Pool was established by the European Council of Ministers of Trade which permits only one size to be used, namely 32 x 48 in. The International Chamber of Commerce has endorsed the International Pallet Pool and consideration is being given to establish methods of giving preferential treatment and reduced rates to goods shipped on this size pallet. This size, designated by ASA as "R4," is among those given in American Standard MH1.1-1959.]

However, Sectional Committee MH1 agreed that one size would not provide for the needs and dynamic conditions in this country. Great volumes of goods are required in small and large unit loads. A range of integrated standard pallet sizes adaptable to current and future materials-handling devices, buildings, and carriers is needed.

The following sizes selected were based on certain module relationships and a number of factors as described in the standard:

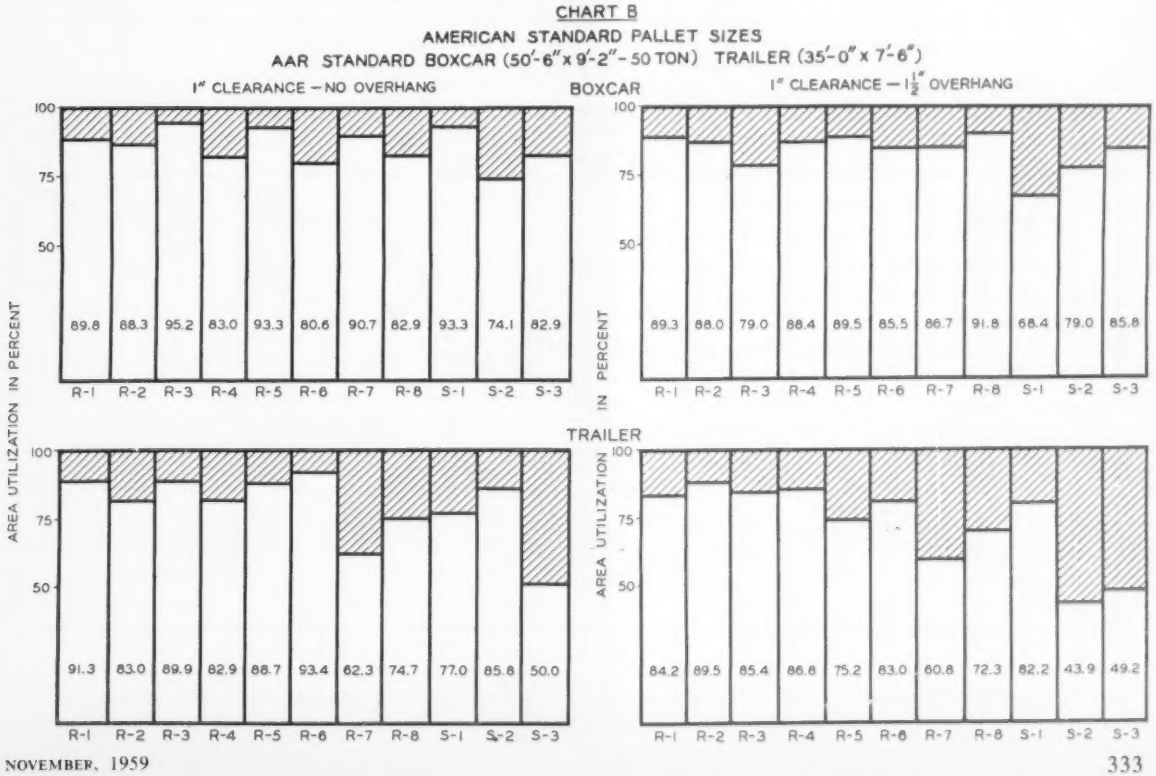
Pallet Sizes — Rectangular		*Pallet Sizes — Square*	
R-1	24 x 32	S-1	36 x 36
R-2*	32 x 40	S-2	42 x 42
R-3	36 x 42	S-3	48 x 48
R-4*	32 x 48		
R-5	36 x 48		
R-6*	40 x 48		
R-7	48 x 60		
R-8*	48 x 72		

* Size under consideration by ISO.

The "areagram" charts show the relationships of pallets to the inside area of the modern carrier equipment and to the weight and volume of goods which could be carried. Pallets with a 1½-in. overhang of the load and pallets without any overhang are both covered in the standard. Studies were made to obtain some approximations of the average density of goods shipped by pallets; 30 lb per cu ft appeared to be the criteria, and this factor was utilized.

The need for standardization of pallets has arisen from the interconnecting nature of pallet functions. The present great variety of pallets limits their fluidity through the channels of manufacturing and distribution industries. Variety of pallet size and design has been occasioned by each manufacturer and industry considering pallet design as a private problem. However, pallet

Areagram Chart (Chart B in the new standard) shows the percent of floor area used by the standard pallets in both boxcars and trailers, with and without overhang of the load. The chart shows that use of the floor area is less efficient when the load overhangs the pallet by 1½ in. than when there is no overhang.



use is constantly increasing in the United States and in international trade, as ways are found to extend mechanization to the handling, transport, and storage of materials.

There have been developed, by evolution, certain standards in particular industries and in the military services. These standards meet specific problems which are faced by other users also. Consequently the sizes and construction of these pallets have determined a pattern that is of value to industry as a whole.

The ASA project was initiated over five years ago. First the B68 Sectional Committee (subsequently MH1) was formed. Later the American Society of Mechanical Engineers and the Society of Packaging and Handling Engineers were obtained as sponsors. After determining general objectives and after clarification of aims, a technical committee was formed. This was a small group working as an administrative subcommittee, coordinating the work of five subcommittees, on surveys, definitions, materials, testing, and sizes.

The technical committee soon found that there were no prior examples of effective methods of developing a national standard for materials-handling design. Many attempts had been made to develop pallet standards in the past with the view of eliminating hundreds of pallet sizes in common use. After many attempts, Committee MH1 evolved its scope and method of operation.

In addition to selection of the standard sizes, the committee found that terminology in common use which would confuse users had to be clarified. The user was cautioned in the standard regarding these terms and provided with additional definitions.

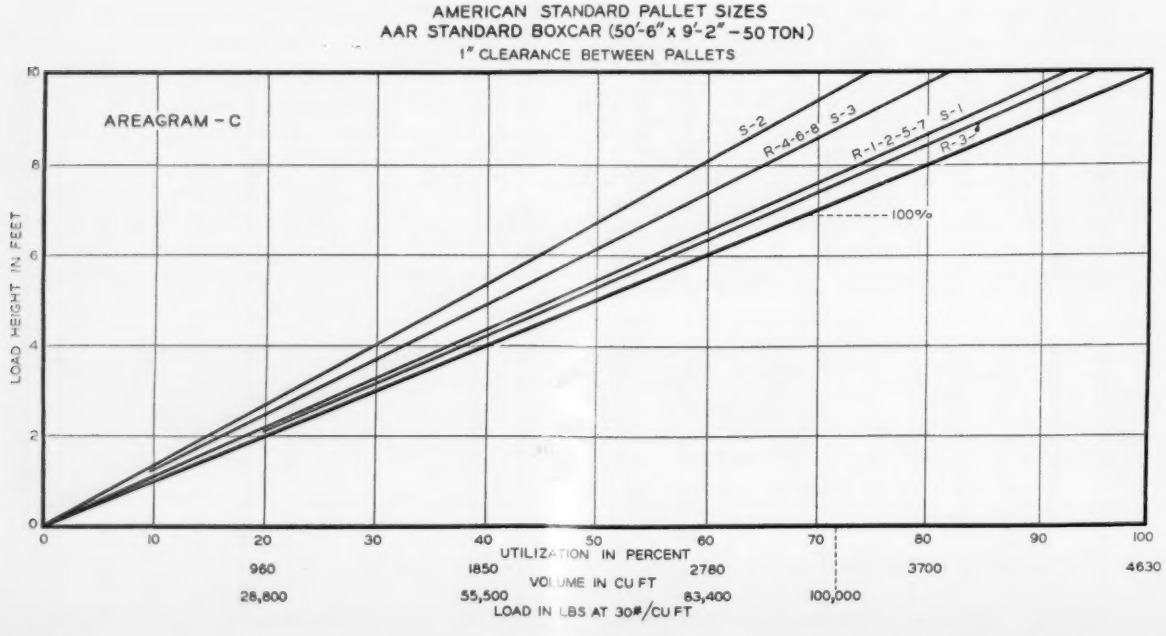
The committee found that by theorizing and developing what might be called principles before it attempted to select the sizes it saved much time and effort. The thinking-through was equivalent to setting up a standard for selecting a materials-handling standard. It became evident that developing a materials-handling standard called for the same method of attack that most engineering or research projects require: an ounce of creativity and a pound of motivation and effort.

Pallets can become the base for containers. In the future we can expect to see many automatic storerooms having higher clearances for high pallet racks. Into these racks material will be directed for storage. In flowing in and out of these storerooms to and from the carrier or work positions, the pallet loads will be recorded automatically. Inspection methods and selection of units from the pallet load will be tied into this system.

How efficient are our storerooms today? Divide the estimated average volume of materials stored by the cubage available for storage. Frequently you will find the utilization factor is only ten percent. Receiving and inspection positions, truck aisles, drop space, and other factors account for most of the space.

The increased use of standards should direct the attention of product designers to the great possibilities of designing their product as packaged units of a size which on pallets will more effectively occupy buildings and public carriers and facilitate assembly of products.

Areagram C in the new standard shows the percentage of space used by different standard pallets in terms of the height of the load carried. It also shows the volume in cubic feet in relation to the load height and the maximum cubage of the standard boxcar. The chart shows that in a 50 ft. 6 in. boxcar, Pallets R1, R2, R5, R7, and S1 are equally good for all heights of load, but Pallet R3 is the most efficient.



HOW TO CONTROL PAPERWORK PROCEDURES

by FRANK M. KNOX

ANY CONTROL OF PAPERWORK PROCEDURES requires that the procedures be put down on paper as a guide for others to follow. Most companies use the traditional narrative write-ups, resulting in a manual of procedures or standard practices. In fact, this form is so common that most companies do not seem to realize that there are others.

There are several obvious defects in narrative write-ups. The most prominent of these is that too many people just don't read them at all, or when they do read them they can't retain them in their memory. When that happens it cancels out the entire value of the manual.

Defects of the narrative instructions for paperwork procedures are seen as follows:

1. *They are difficult to write.* Few people write with the clarity and cohesion necessary for effective presentation. It could only be called naive to suppose that successful writing of procedures can be done effectively by a person just because he happens to be a methods analyst or procedures expert. Experience shows that too many write to themselves instead of to other people. This leads to the fact that —

2. *They are difficult to read.* Even if clearly thought out, and even if written in one-syllable words, it is difficult for anyone to retain a complete perspective on narrative-type procedures write-ups. The detail on page 3 may be the basis of what is said on page 9 but it can't always be repeated and the average mind will not retain all the detail of so many pages to the extent necessary to put all the parts together. It requires considerable study to absorb written procedures, and most supervisors can't find the time, or simply don't take the time, to do it.

3. *They are difficult to keep up to date.* Even if someone has the time necessary to audit the procedures and keep them up to date, it still happens in most cases that they are not kept up to date, and for a very good reason:—no one in control knows that they are being changed. The change takes place either as an imperceptible drift away from the standard, or the supervisor simply makes the change and doesn't tell anybody.

MR KNOX, president of the Frank M. Knox Company, Inc, of New York and Cleveland, is chairman of the subcommittee of Sectional Committee X2, Office Standards, that developed American Standard X2.3.4-1959, Charting of Paperwork Procedures.

FIGURE 1. This Procedure Chart conforms to the new American Standard X2.3.4-1959

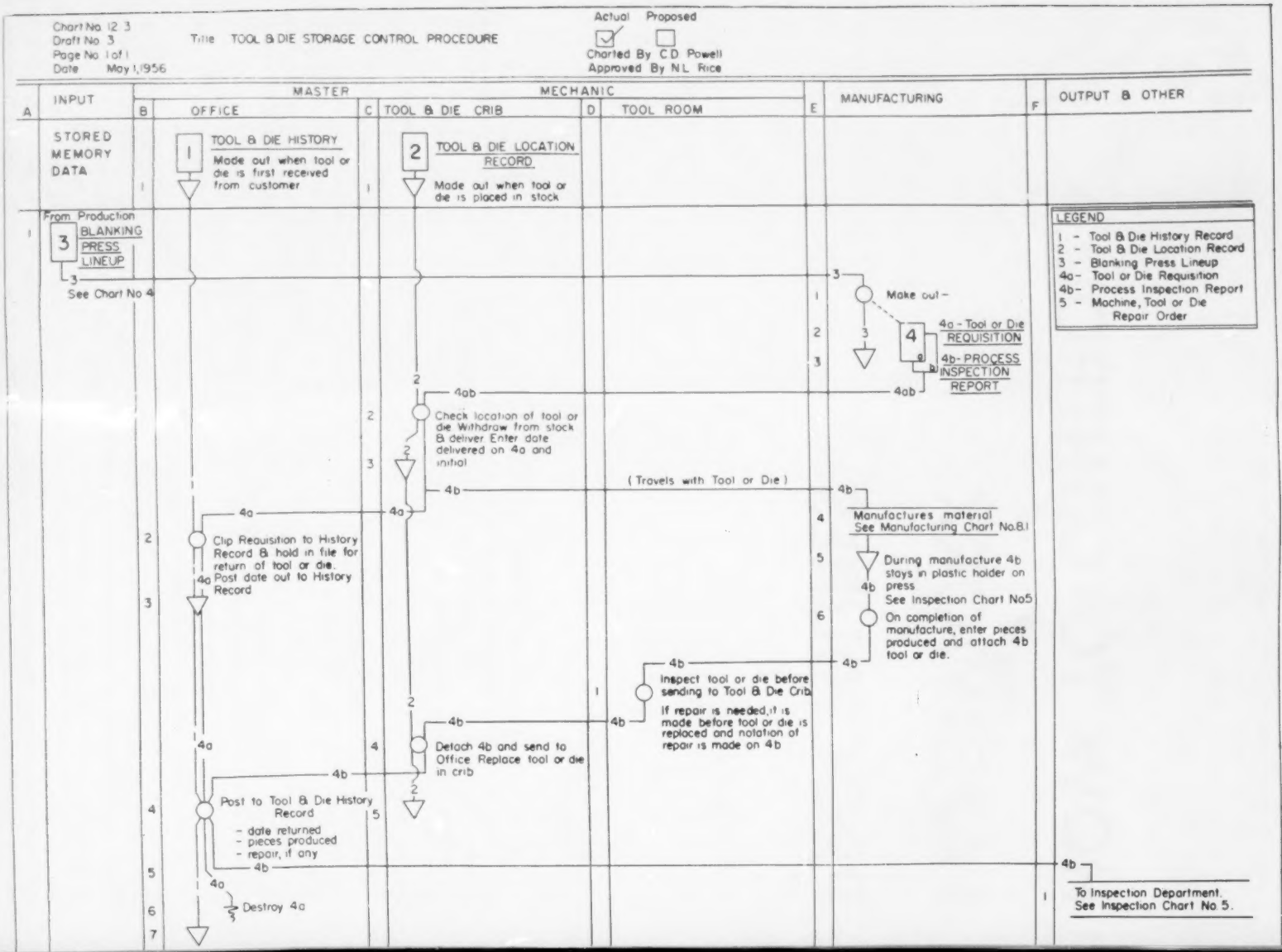
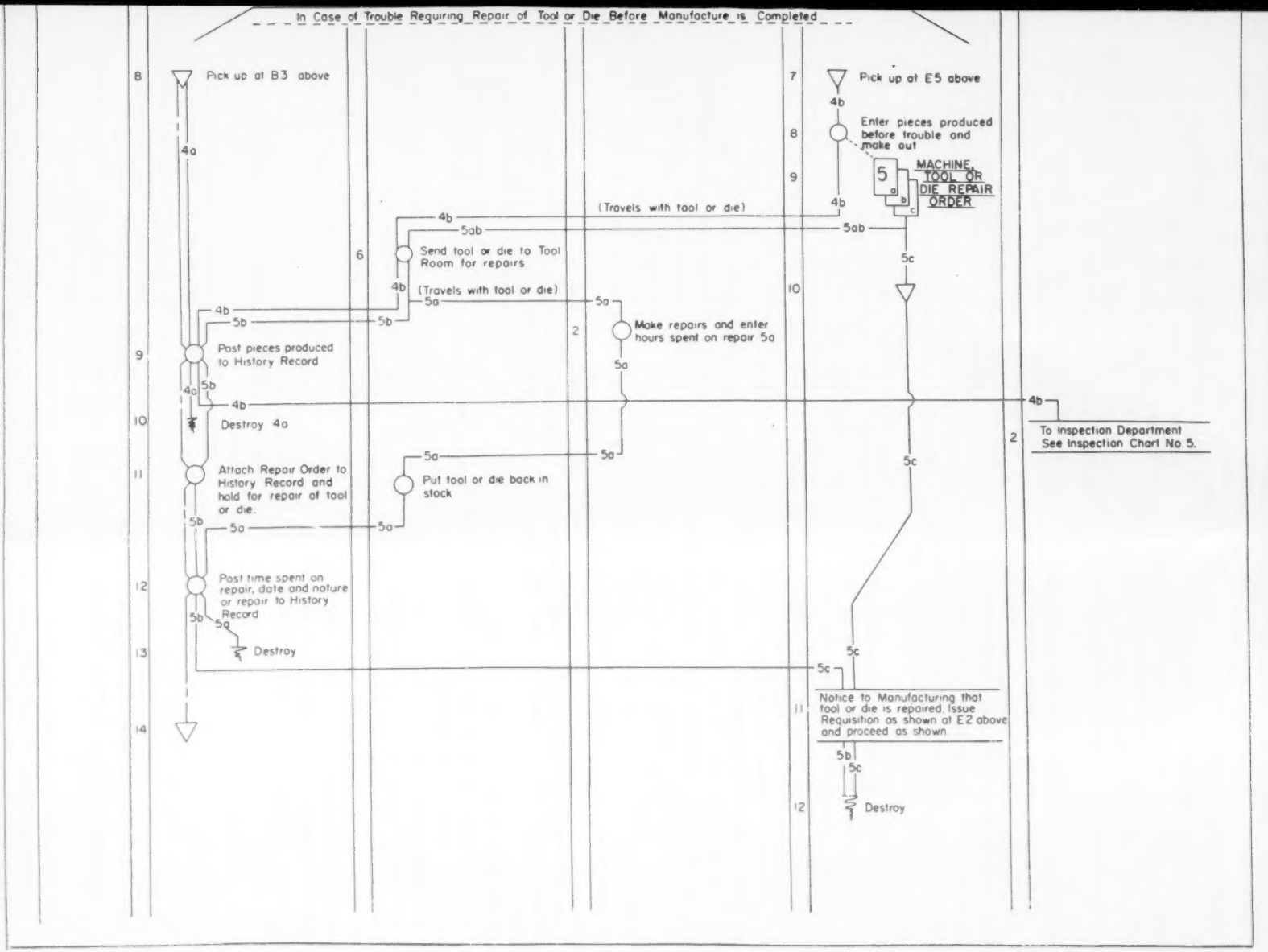


Chart No. 12 3
Draft No. 3
Page No. 1 of 1
Date May 1, 1956
Title TOOL & DIE STORAGE CONTROL PROCEDURE
Actual
Proposed
Charted By C.D. Powell
Approved By N.L. Rice
A
INPUT
MASTER
B
OFFICE
C
TOOL & DIE CRIB
MECHANIC
D
TOOL ROOM
E
MANUFACTURING
F
OUTPUT & OTHER
STORED MEMORY DATA
1 TOOL & DIE HISTORY
Made out when tool or die is first received from customer
2 TOOL & DIE LOCATION RECORD
Made out when tool or die is placed in stock
From Production
3 BLANKING PRESS LINEUP
See Chart No 4
Make out –
4a - Tool or Die REQUISITION
4b - PROCESS INSPECTION REPORT
4ab
Check location of tool or die Withdraw from stock & deliver Enter date delivered on 4a and initial
(Travels with Tool or Die)
4b
Manufactures material See Manufacturing Chart No.8.1
During manufacture 4b stays in plastic holder on press
See Inspection Chart No.5
On completion of manufacture, enter pieces produced and attach 4b tool or die.
4a
Clip Requisition to History Record & hold in file for return of tool or die.
4a Post date out to History Record
Inspect tool or die before sending to Tool & Die Crib
If repair is needed, it is made before tool or die is replaced and notation of repair is made on 4b
Detach 4b and send to Office Replace tool or die in crib
Post to Tool & Die History Record
- date returned
- pieces produced
- repair, if any
Destroy 4a
To Inspection Department. See Inspection Chart No. 5.
LEGEND
1 - Tool & Die History Record
2 - Tool & Die Location Record
3 - Blanking Press Lineup
4a - Tool or Die Requisition
4b - Process Inspection Report
5 - Machine, Tool or Die Repair Order


In Case of Trouble Requiring Repair of Tool or Die Before Manufacture is Completed
8
Pick up at B3 above
4a
9
Post pieces produced to History Record
4a
5b
4b
10
Destroy 4a
11
Attach Repair Order to History Record and hold for repair of tool or die.
5b
5a
12
Post time spent on repair, date and nature or repair to History Record
5b
5a
13
Destroy
14
6
Send tool or die to Tool Room for repairs
4b
(Travels with tool or die)
5a
5b
2
Make repairs and enter hours spent on repair 5a
5a
5a
Put tool or die back in stock
5a
(Travels with tool or die)
4b
5ab
7
Pick up at E5 above
4b
8
Enter pieces produced before trouble and make out
5
a
b
c
MACHINE TOOL OR DIE REPAIR ORDER
9
4b
5ab
5c
10
5c
4b
To Inspection Department See Inspection Chart No. 5.
2
5c
5c
5c
11
Notice to Manufacturing that tool or die is repaired. Issue Requisition as shown at E2 above and proceed as shown
5b
5c
12
Destroy

These situations occur whether the procedures staff is on an integrated program or is merely putting out the procedures fires.

The Procedure Chart

In the face of these rather critical defects of the narrative-style written procedure, what is the answer? The answer lies in a type of procedure chart which is not only a medium for analysis but also serves as an efficient means of communication, supplemented by explanatory notes.

One reason why so many procedure charts often fail to accomplish their purpose in the office is that they are incomprehensible to too many people. This is the tragedy of many of the procedures control efforts in the office. Practically every procedure chart must be read by one or more persons other than the one who draws the chart. The sad fact is that in most cases the other people simply cannot read them.

Nine times out of ten the reason for lack of quick-and-easy legibility in the procedure chart is the fact that the procedure analyst has introduced the "how," or method, into the chart, when, in fact, the executive or manager is usually interested at the outset only in the "what-when-where" factors. Introduction of the method factor (and an electronic computer or a punched card tabulator is only a method of doing something) may be highly desirable, and it will have to be covered sooner or later, but when communication is the point in hand, the presence of all four factors, WHAT-WHEN-WHERE-HOW, will almost surely complicate the chart to the point where it becomes hard to read and understand.

There are three major situations in which the communications aspect of the procedure chart becomes important:

1. In the initial stage of charting the present method, when management must be consulted for anwers as to (*a*) whether or not it should be done at all, (*b*) whether it is accomplishing its objectives, and (*c*) whether or not the operations being performed are in accordance with assignments of responsibilities and authorities. Obviously, these questions must be answered before any detailed study of methods is undertaken, and only the responsible executives can give the answers. So the chart must be instantly legible to management without having to take a course in chart reading.

2. In the search for better methods a copy of the chart of the present procedure may be given to selected salesmen of equipment or methods with an invitation to them to offer some better method. In this case the chart should show the procedure only, and should not show the present method. This gives the salesman a completely fresh start for the application of his particular machine, form, or method.

3. In the installation of the new simplified procedure, when the supervisor must be instructed in its use, it is of the utmost importance that some way be found to eliminate the confusion in his mind and give him an over-all perspective of the procedure which he can comprehend and retain. This is best done by a chart with supplemental notes in which the details of "how" are set forth.

Figure 1 on pages 336 and 337 illustrates a type of procedure chart which conforms to all the specifications of the new American Standard Method for Charting Paperwork Procedures.[1] It is a fairly simple procedural situation yet it encompasses most of the problems found in the average company's procedural areas. It serves both objectives, analysis and communication. It provides for exceptions and variations from the rule. It is coded for later integration with work measurement and simplification. Above all, it can be read quickly and easily by others, in addition to the methods analysts, and will serve as a basis for discussion and decision making.

This type of chart represents the distillation of more than 20 years of study and experience with procedure charts and has been especially adapted to the kind of situations found in the handling of paperwork in the office (including the factory office) rather than the handling of raw materials and work-in-process in the plant.

The Method Chart

The difference between the procedure chart and the method chart is one of degree rather than of kind. Both follow the same fundamental principle except that the method chart places emphasis on the "how" which was not shown on the procedure chart. The method chart can go into as much detail as is necessary to meet any given situation.

Figure 2 on page 339 shows a typical method chart to supplement a procedure chart. Not shown here are the supplementing paragraphs of detailed instruction which go with the method chart. These paragraphs are keyed to the action on the chart by the codes in the left-hand columns and should provide all instruction needed to operate the procedure.

Such explanatory paragraphs can be used with the procedure chart without going into detail of the methods chart if that is deemed sufficient in any given situation.

With these charts no one has to read more than the specific points in which he or she is interested. Long, complicated narrative write-ups are not necessary. Any supervisor or manager can get a complete perspective on the entire procedure, or limit his attention to his area alone.

The procedure and method charts, in themselves, solve no problems. They merely draw a picture of the procedural situation. This makes it possible for analysts, managers, and executives to understand the problems, make analyses, and reach decisions on what to do.

But without charts which draw the simplest possible picture of the situation they can hardly expect to get the necessary perspective for the making of intelligent decisions.

[1]American Standard Method of Charting Paperwork Procedures, X2.3.4-1959, is available from ASA at 35 cents.

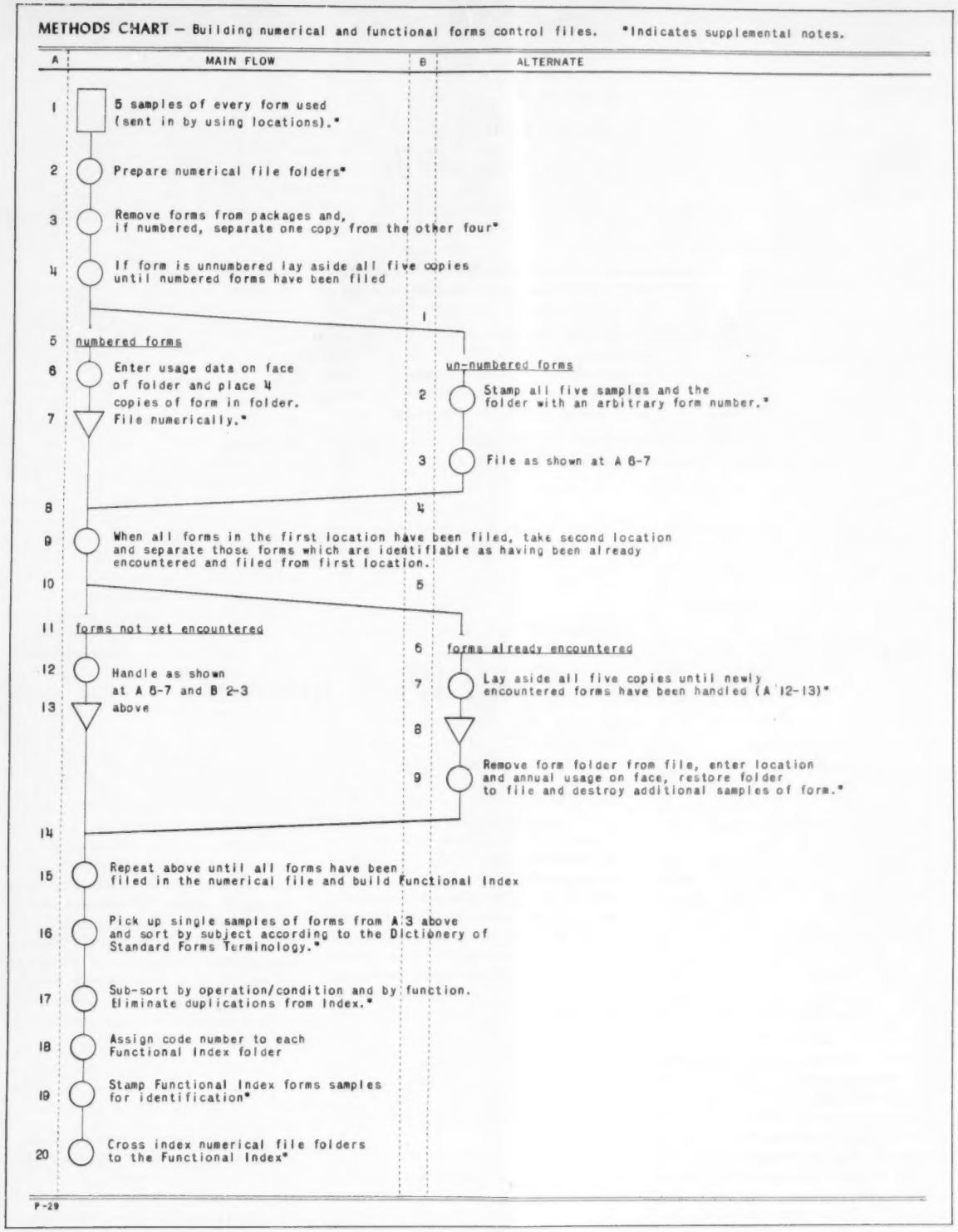

METHODS CHART — Building numerical and functional forms control files. *Indicates supplemental notes.
A
MAIN FLOW
B
ALTERNATE
1 5 samples of every form used (sent in by using locations).*
2 Prepare numerical file folders*
3 Remove forms from packages and, if numbered, separate one copy from the other four*
4 If form is unnumbered lay aside all five copies until numbered forms have been filed
1
5 numbered forms
un-numbered forms
6 Enter usage data on face of folder and place 4 copies of form in folder.
2 Stamp all five samples and the folder with an arbitrary form number.*
7 File numerically.*
3 File as shown at A 6-7
8
4
9 When all forms in the first location have been filed, take second location and separate those forms which are identifiable as having been already encountered and filed from first location.
10
5
11 forms not yet encountered
6 forms already encountered
12 Handle as shown at A 8-7 and B 2-3 above
7 Lay aside all five copies until newly encountered forms have been handled (A 12-13)*
13
8
9 Remove form folder from file, enter location and annual usage on face, restore folder to file and destroy additional samples of form.*
14
15 Repeat above until all forms have been filed in the numerical file and build functional index
16 Pick up single samples of forms from A 3 above and sort by subject according to the Dictionery of Standard Forms Terminology.*
17 Sub-sort by operation/condition and by function. Eliminate duplications from Index.*
18 Assign code number to each Functional Index folder
19 Stamp Functional Index forms samples for identification*
20 Cross index numerical file folders to the Functional Index*
P-29

FIGURE 2. A typical Method Chart that might be used to supplement a Procedure Chart. The Method Chart emphasizes the "how" of the procedure which should not appear on the Procedure Chart.

This is the twenty-sixth installment in the current series of rulings as to whether unusual industrial injury cases are to be counted as "work injuries" under the provisions of American Standard Method of **Recording and Measuring Work Injury Experience, Z16.1-1954.** *The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply. Decisions on unusual industrial injury cases are issued periodically by the Z16 Committee on Interpretations.*

Sectional Committee Z16 is sponsored by the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

INDEX TO CASES 400-600. *An index to Cases* 400-600 *has now been completed. Arranged numerically by the number of the applicable paragraph of American Standard Z16.1-1954, the index includes the number of the case indexed and a key letter indicating what the decision was in each case. Each index reference includes a brief description of the case.*

Reprints of Cases 400-600, *with the Index, are now available from ASA at* $1.50. *Discounts for quantity orders may be obtained on request.*

Are These Cases Work Injuries?

CASE 725 (1.2.4)

On occasion, letter carriers who had been disabled from walking their routes sorted their mail in the office (which took about 1½ hours) and then went home, leaving the actual delivery of the mail to substitute carriers. The question raised was whether the fact that the disabled letter carrier worked 1½ hours each day eliminated those days from being charged as lost time.

Decision: Such cases should be included in the work injury rates as temporary total disabilities on the basis that the mailmen were not able to perform all of the duties of their jobs, or other regularly established jobs. An employee may not be able to work the entire day because of the need to see a doctor, receive medical treatment, etc, but during the time he is working, he must be able to perform all of the duties of his job. Similarly, if an employee is assigned another "regularly established job," not his own, then he should be able to do all parts of that job for a full day if the case is not to be considered a temporary total disability.

CASE 726 (5.2)

An employee's job was to take a cardboard carton 12 in. wide, 18 in. deep, and 36 in. high, containing approximately 65 lb, from a roller conveyor 14 in. up from the floor, and tip the carton to the floor upside down, at the same time holding one hand on the top flaps of the carton so that the unsealed flaps would be in proper position for sealing. Among other duties, the employee performed this operation 400 to 600 times during an 8-hr shift. He had been working on this job for several weeks and was doing it in the approved method.

On the day in question, as the employee was in the middle of his 8-hr shift, he tipped a carton to the floor in the manner described above, and felt a catch in his back. He reported to the foreman and was off work for several days by order of the plant physician. The physician diagnosed the condition as a possible back muscle injury, and was also of the opinion that such a back strain could occur from as little as bending over to tie shoe laces.

Decision: This back strain should be considered a work injury and included in the work injury rates on the basis that the activity of repeatedly lifting moderately heavy and awkward objects, coupled with repeatedly bending and turning while supporting these objects, satisfies the requirements of paragraph 5.2 (a). The plant physician indicated that this employee's injury could have resulted from these activities, thus satisfying paragraph 5.2 (b).

CASE 727 (5.2)

Two employees were on opposite sides of a table as they removed a machine guard about 3 ft. long, weighing 60 lb. Employee A threw his end sideways across the table so that his partner, by holding on to his end, could pivot the guard in a 90-degree arc, permitting the guard to be on his side of the table. As Employee A threw his end of the 60-lb guard, he felt a catch in his back and was unable to work for several weeks. He had been performing this operation three or four times per shift for several years. The doctor diag-

nosed his trouble as an apparently strained back muscle.

Decision: This should be considered a work injury and included in the work injury rates on the basis that the act of throwing the end of a 60-lb. guard sideways across the table should be considered as an incident in accordance with paragraph 5.2 (a). The doctor's indication that the disability arose out of this incident satisfies part (b).

Case 728 (1.2.4)

An employee hired just for seasonal work was washing bottles in a retort wagon. The water in the retort wagon was heated by the immersion of a steam hose. The employee did not follow the directions for the use of the steam hose in the operation, and as a result the hose, which was not securely fastened, was forced out of the water and the steam was directed at the employee, striking him on the chest.

The employee reported to the company first aid room daily for treatment of the burns on his chest. He was laid off from work 4 days later when the season ended, but he continued to report back for further treatment. During this treatment there was no indication that any medical aid beyond that available at the first aid room was or would be necessary.

The employee was able to work without disability until work was no longer available. However, several weeks after his last visit to the first aid room he went to a doctor. He subsequently filed a petition for both permanent partial and temporary total disability. The company's insurance carrier physician, who was recognized as the company's medical agent, indicated that the man should probably be given two months temporary total disability. The doctor who had first examined the employee was of the opinion that the man was totally disabled for performing his regular job for a 2-week period after he had first seen him. He also considered him to have been similarly disabled for the previous week, his burns having been second degree and involving superficial tissue loss over a considerable area.

Decision: This should be considered a temporary total disability and included in the work injury rates with a time charge of 18 days, the days from the time of termination of the employee's work to the time when the doctor said he would be able to seek work in the open market.

Case 729 (5.3)

On January 20, an electrican stepped over a 12-in. dike around the pumping unit en route to his truck. He stated that he did not place his foot properly as he stepped over the dike, and he felt a pain in his right knee. The following day he was examined by a doctor, who applied an Ace bandage and released the man to perform his regular job. The employee continued working without incident until February 13 when he was taken to surgery for removal of a torn medial meniscus.

On examination of the removed semilunar cartilage, the pathologist commented that in view of the history of trauma to the knee about four weeks prior to the removal of this cartilage the question arose as to whether all the pathology encountered was ancient or whether some or all of it was sustained at the time of the recent injury. No conclusive evidence could be offered for either premise, although a fairly recent affair was suggested. The doctor's diagnosis was residuals of trauma to semilunar cartilage (possibly on more than one occasion).

Decision: This should be considered an industrial injury and included in the work injury rates on the basis that available facts indicate a direct sequence between the admitted injury of January 20 and the onset of disability on February 13, and create a strong presumption of cause and effect. In the absence of conclusive evidence to the contrary, it must be assumed that the disability resulted from the January 20 injury.

Case 730 (5.4)

On April 3 a leadman was transporting on a fork lift truck a pallet which was supported between clamp arms by pressure. To make the pallet more secure he stopped his truck, stepped off, and placed two 2 x 4's under the pallet. When he straightened up he felt pain in his left knee, but stated that he was unaware of any slip or twist, and he did not fall.

He reported to the dispensary the following day and received diathermy treatment. He was examined by the company physician on April 7 and was given conservative treatment. On April 16, as he was coming into the doctor's office, he made a quick turn, his knee popped, and he lost his balance, almost falling due to the instability of the knee. Surgery was performed, and a torn medial meniscus was removed.

Decision: The incident of the employee's knee popping as he was going into the doctor's office on April 16 was directly related back to his industrial injury of April 3, and should therefore be included in the work injury rates.

Case 731 (5.2)

A screen plate washer was picking up a metal screen plate which weighed 30 lb. and the dimensions of which were 11 in. x 42 in. x ⅜ in. Screen plates were stored in an upright position, leaning against the wall, and the employee was in the process of carrying plates from storage to place them in the screen boxes on the unit. At the time, the employee was picking up only one metal screen plate, whereas frequently he carried two plates at one time, and occasionally had carried as many as three plates without any difficulty.

He lifted the plate in the approved manner (feet together, knees bent, and lifting with his legs). As he came up with the plate he started turning to the left to start walking away with the plate when he suddenly felt a severe pain in his lower back. He said that as soon as he felt the pain everything "sort of locked" and he called out to a fellow employee who helped him set down the plate and told him to go right to first aid. The man was apparently in considerable pain as he walked to the office, where the doctor treated him. He was taken home that afternoon, but by evening was in so much pain that the doctor sent him to the hospital where he remained for 4 days. The x-rays were negative for fracture. The doctor's diagnosis was severe lumbo-sacral strain—patient unable to straighten up. He said later that this type of injury could happen to anyone at any time.

Decision: This injury should be considered a work injury and included in the work injury rates. Lifting of the screen plates, particularly in conjunction with turning, would satisfy 5.2 (a) as an incident. The doctor's indication that the disability arose out of this incident satisfies part (b). The fact that this injury might have happened to anyone at any time does not alter the fact that it did occur to the employee in question in connection with his work.

Case 732 (5.2)

On April 4 a compressor station roustabout, while in the act of placing one end of joint of 4-in. pipe on skids, sustained a self-diagnosed strain in the muscles of the lower back region. He reported this injury to the compressor station superintendent, but no medical attention was thought necessary at the time and the employee continued with his duties with no apparent incapacitation or discomfort.

On April 23 this same employee was using a pitchfork to lift small branches which had been pruned off trees around the perimeter of the plant site. As he was lifting the branches into a fire, he experienced a sharp pain in the lower region of his back. The station superintendent sent the man to a doctor, who diagnosed his pain as a muscle spasm and prescribed medication, hot packs, and rest. The injured employee lost 11 days of time from work.

Decision: This injury should be considered as an industrial back case and included in the work injury rates. Using the pitchfork satisfies 5.2 (a) as an incident. In the absence of a statement by the doctor as to the probable association between the work the employee performed and the muscle spasm, it must be assumed that the doctor agreed that the work could have produced the injury.

STANDARDS FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering copies of standards, please refer to the number following the title.

615.4 PRACTICAL PHARMACY. MEDICINES. INSTRUMENTS. HOSPITAL EQUIPMENT.

Germany (DNA)

2 stds for different x-ray films used in medical diagnosis DIN 6829/30
X-ray equipment for diagnosis, rules and symbols for operation DIN 6839
Rollers for hospital furniture DIN 13042

Norway (NSF)

Hypodermic needles for medical use NS 631
Hypodermic syringes for medical use NS 632

Poland

6 stds for various surgical instruments PN series Z-54

United Kingdom (BSI)

Tubular-framed invalid chairs for hospital use BS 3124 : 1959

621.753 GAGING AND GAGE MAKING

Austria (ONA)

Admissible deviations of measurements without indication of tolerance ONORM M 1365

Germany (DNA)

Tolerances and fits. Terms for deviations of form and position DIN 7182
7 stds for gages for different cans and can lids DIN 2026

Italy (UNI)

3 stds for ISO tolerance system for sizes from 500 to 3150 mm UNI 4224P/4226P

621.798 PACKING AND DISPATCH. PACKAGING

Austria (ONA)

Tin containers with clamping cover for lacquer and paints ONORM A 5031

France (AFNOR)

Heavy boxes for 60 Camembert cheeses NF H 21-006
Light boxes for 60 Camembert cheeses NF H 21-007
Boxes for walnut kernels NF H 21-022

Germany (DNA)

Tins for fruit and vegetable preserves DIN 2011
Cases for beer bottles DIN 55410

India (ISI)

Pictorial markings for handling instructions for non-dangerous goods IS:1286

Mexico (DGN)

Palm fiber mats for packing of cotton A-45-1958

Norway (NSF)

Transport packages. Series of sizes NS 917

Rumania (OSS)

Different metal containers for liquids STAS 5845-58

Spain (IRATRA)

Metal cans, terminology and general characteristics UNE 49 300

Union of South Africa (SABS)

Standard specification for corrugated board boxes for blasting cartridges SABS 243-1958
Standard specification for corrugated board boxes for capped fuse SABS 670-1958
Standard specification for corrugated board containers for butter SABS 671-1958

United Kingdom (BSI)

Packaging for air freight BS 1133:Section 20:1959
Glossary of packaging terms BS 3130:1959

643/645 HOUSEHOLD EQUIPMENT

Belgium (NBN)

Rules for independent heating systems in homes NBN 500

France (AFNOR)

Liquid fuel burners for domestic use and heating NF E 31-301

Israel (SII)

Silver-plated table ware S.I. 307*

Poland

5 stds for household kitchenware PN series M-77

Rumania (OSS)

Domestic kitchen stoves STAS 3455-58

665.4/.5 MINERAL OILS. WAXES

Argentina (IRAM)

2 stds for petroleum products, test methods IRAM 6581, -97

Austria (ONA)

Density and specific gravity of mineral oils ONORM C 1120

Belgium (IBN)

Petroleum products. Kinematic viscosity. Conversion tables NBN 52.012, 52.016
Petroleum products. Flash point Abel-Pensky test NBN 52.075

France (AFNOR)

Determination of conventional saponification number of petroleum products by color-indicator titration NF T 60-110
Determination of precipitated asphalt content by standard heptane NF T 60-115
Flash point test in Abel closed container of liquid asphalt NF T 66-009
Determination of olefinic and aromatic hydrocarbides in petroleum distillates NF M 07-016
Determination of bromide index of petroleum distillates NF M 07-017
Calculation of olefins and aromatics contents in petroleum distillates NF M 07-018
2 stds for identification plates for fixed liquefied petroleum gas tanks NF M 87-104/5
2 stds for graduated weight to be fixed on steel templates of volume measuring gages NF M 87-106/7
Plate indicating tonnage for petroleum tanks on ships and barges NF M 88-050
Plumbing accessories for tanks NF M 88-161
4 stds for different identification plates for liquid petroleum tanks NF M 88-170,-250,-610,-710

Hungary (MSZH)

Determination of flash point of mineral oils by Pensky-Martens method MSZ 11742-58

Netherlands (NEN)

Determination of saponification number of non-compounded oils NEN 2127

Rumania (OSS)

Determination of density of raw mineral oils STAS 35-58
Sampling of raw mineral oils STAS 41-58

Switzerland (SNV)

Mineral oils: quality rules for liquid fuels SNV 81161

USSR

Paraffins, testing for oil content GOST 9090-59

677 TEXTILE AND CORDAGE INDUSTRY

Australia (SAA)

Flax canvas A.S. L.3-1959
Conditioning textile materials for test A.S. L.5-1959
Determination of breaking load and elongation of strips of woven textile fabric A.S. L.6-1959

Belgium (IBN)

Yarn counts of textile products in tex units NBN 519
Standard atmosphere for the determination of physico-mechanical properties of textiles NBN 536

Czechoslovakia (CSN)

Twisted silk thread, surgical quality CSN 80 2548

France (AFNOR)

Cords of hemp, Manila fiber, sisal hemp. Hemp whips NF G 36-003
Strings of hemp, jute and sisal hemp NF G 36-004
Wilton type carpets made of semi-carded wool NF G 35-001

Germany (DNA)

Determination of thickness of textiles DIN 53855
Determination of colorfastness to solvents of dyes and prints DIN 54023
Worsted yarn DIN 60410

India (ISI)

Method for determination of dimensional changes on washing of fabric woven from rayon and synthetic fibers not liable to felting IS:1299
Methods for determination of ends and picks per centimeter in woven wool fabrics IS:682
Methods for determination of weight per square meter and weight per linear meter of wool fabrics IS:683
Determination of colorfastness of textile materials to bleaching with sodium chlorite IS:987

Japan (JISC)

5 stds for asbestos yarn, cloth, etc JIS R 3450/4
Test methods of quantitative analysis of fiber mixtures JIS L 1030*

Netherlands (NEN)

Standard atmospheres for conditioning and determining the physical and mechanical properties of textiles NEN 2352

Norway (NSF)

Woven cotton-type textiles for hospital use NS 602
Identification colors for textiles for hospital use NS 603

Portugal (IGPAI)

Textiles, tension test of NP-181

Spain (IRATRA)

Measurement of textiles' width UNE 40043
Identification and classification of pure fibers by floating method UNE 40054

Union of South Africa (SABS)

Standard specification for cotton jean and drill fabrics SABS 512-1958

744 TECHNICAL DRAWINGS

Belgium (IBN)

Drawing office practice. Tracing, folding, marks and title blocks NBN 510
Drawing office practice. Types of lines NBN 511
Lettering NBN 467

Netherlands (NEN)

Technical drawings: lines NEN 2350

Rumania (OSS)

Conventional views and sections STAS 105-58
Method of dimensioning STAS 188-58

. . . Questions

Is there a tolerance on the slot location on machine screws?

American Standard B18.6.2-1956, Hexagon Head Cap Screws, Slotted Head Cap Screws, Square Head Set Screws, and Slotted Headless Set Screws, and American Standard B18.6.4-1958, Slotted and Recessed Head Tapping Screws and Metallic Drive Screws, each contain a note on the eccentricity of slots. The note states that the slots shall not be eccentric with screw bodies by more than 6 percent, or 0.010 inch, whichever is greater. These two standards are two of the four standards that are replacing American Standard B18.6-1947, Slotted and Recessed Head Screws, Machine and Tapping Types. Three of the four new standards have been published, the two named above, and American Standard B18.6.1-1956, Slotted and Recessed Head Wood Screws. The fourth, Slotted and Recessed Head Machine Screws and Machine Screw Nuts, B18.6.3, is not yet completed.

What do the symbols ISA-H8, H9, H10, H11, and H12 mean?

The former International Federation of the National Standardizing Association (ISA) published ISA Bulletin 25 on the ISA tolerance system in 1942. This bulletin summarizes the work of the ISA International Committee on Limits and Fits. The ISA system comprises a series of tolerance zones for shafts and holes designated by letters of the English alphabet — lower case letters are related to shafts; capital letters are used for designating tolerance zones of holes. The figures accompanying the letters designate the grades of fundamental tolerances.

Copies of ISA Bulletin 25 can be ordered from the American Standards Association at $2.25 each. All ISA bulletins were published in four languages: German, English, French, and Italian.

Are there standards or methods of test for the slipperiness of walkway surfaces?

At one time there was a project on walkway surfaces under the procedures of the American Standards Association. However, the sponsors of the project found that there is no machine or method of test at the present time that can effectively test the slipperiness of floors and give reproducible results. Therefore, the project has been dropped for the time being.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF THE MAGAZINE OF STANDARDS, published monthly at New York, N. Y., for Oct. 1, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher: American Standards Association, Incorporated, 70 East 45th Street, New York 17, N. Y.; Editor: Ruth E. Mason, 70 East 45th Street, New York 17, N. Y.; Managing editor: None; Business Manager: None.

2. The owner is: American Standards Association, Incorporated, 70 East 45th Street, New York 17, N. Y.; John R. Townsend, President; Frank H. Roby, Vice-President; G. F. Hussey, Jr., Managing Director and Secretary.

3. The known bondholders, mortgagees, and other security holders owning or holding one percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

Ruth E. Mason
Editor

Sworn to and subscribed before me this 1st day of September, 1959.

Lydia I. Gustafsson
Notary Public, State of New York
Qualified in Westchester County

No. 60-1608150 3-31-59

Cert. filed with New York Co. Clerk
(My commission expires March 30, 1961.)

News Briefs . . .

AS A HELP TO COMMITTEES drafting American Standards in the electrical field, the Electrical Standards Board has approved a set of principles to be followed in formulating definitions of electrical terms. The following is a revised edition of the guide, approved in July 1959 by the Electrical Standards Board.

1. Single words and some compound terms in common use which are defined satisfactorily in the accepted English dictionaries should not be defined.
2. Words or terms not defined satisfactorily in the accepted dictionaries should not be used in a definition unless defined in C42,[1] or in the standard wherein the definition is presented.
3. The definitions should express the meaning which is generally associated with the term in electrical engineering in this country. Insofar as practicable, the definition should be a word picture of the term defined.
4. Terms commonly used in various branches of electrical engineering should have sufficiently generalized definitions to satisfy all branches. Explanatory notes may obviate the use of two or more slightly divergent definitions. If basic differences in meaning exist, the statement of the term for each definition should indicate in some manner the branch to which it specifically applies; example — "armored cable (in interior wiring)."
5. Definitions should be statements of fact, not mandatory rules; the use of "shall" and "must" is therefore generally not desirable.
6. Specifications, whether in words or figures, should not form a part of a definition. If considered helpful they may accompany the definition in the form of a note, with an introductory clause; example—"Note: A common form of specifications for . . . is as follows . . . ," or, "Note: American Standard C57-1948 specifies . . . "
7. A definition should be stated affirmatively and in the present tense.
8. When the term to be defined is a new member of a family of terms defined in C42, the definition should be so formulated as to become a consistent part of this family of definitions. For all other terms the definitions should be formulated along the lines of those terms of similar nature.

[1]American Standard Definitions of Electrical Terms, published as 19 different standards, each representing a different branch of electrical engineering.

• THE INTERNATIONAL Organization for Standardization's Technical Committee 85, Nuclear Energy, is planning two weeks of meetings starting May 23, 1960. A plenary session of the committee will lead off on the first day, with Subcommittees 1 and 2 holding concurrent sessions the remainder of the week. Subcommittees 3 and 4 will meet during the week of May 30, followed by a final plenary session of TC 85 on Friday, June 3. Subcommittee 1 deals with terminology, definitions, units, and symbols; Subcommittee 2 with radiation protection; Subcommittee 3 with reactor safety; and Subcommittee 4 with radioisotopes. The American Standards Association, as U.S. member of ISO, holds the secretariat for Technical Committee 85 and for Subcommittee 1. France holds the secretariat for Subcommittee 2; the United Kingdom for Subcommittee 3; and Poland for Subcommittee 4.

• THE NATIONAL BUREAU OF STANDARDS announced the availability of three new gamma ray radioactivity standards. Strontium-85, niobium-95, and mercury-203 can now be obtained in approximately 5 grams of solution, sealed in glass ampoules.

These gamma-ray emitters are issued as part of the Bureau's program to supply standards in all areas of the physical sciences. Radioactivity standard samples, such as these, are widely used in physics, chemistry, biology, and medicine to control processes and to maintain the accuracy of equipment and apparatus.

As of August 15, 1959, the strontium-85 sample had a total nominal activity of 2×10^6 disintegrations per second, niobium-95 had 6×10^5 disintegrations per second, and mercury-203 had 10^7 disintegrations per second. As these standards, because of their high activities, can be issued only under the special licensing provisions of the Atomic Energy Act of 1954, it is required that a copy of the purchaser's current AEC by-products material license be on file at the Bureau. The new strontium, niobium, and mercury standard samples may be obtained from the Radioactivity Section, National Bureau of Standards, Washington 25, D. C., for $27.00 each.

• PROPOSED AMERICAN Standard Specifications for the Chromaticity of Fluorescent Lamps, C78.376, has been published by the American Standards Association for one year's trial and criticism.

The proposed standard was developed to establish color values and tolerances for 40-watt, T-12 fluorescent lamps to assure their uniform color appearance. It establishes chromaticity objectives for the white, cool white, warm white, and daylight types.

The proposed standard is intended to be used in conjunction with the C78 group of American Standard Dimensional and Electrical Characteristics of Fluorescent Lamps. Included are charts showing chromaticity limits for the four types, with tolerances indicated by elipses calculated according to the MacAdam method.

Specifications are based on work of the Lamp Testing Engineers Conference, and the availability of standard lamps which may be used for testing. The standard test lamps were developed as a result of measurements made by the National Bureau of Standards.

Copies of proposed American Standard C78.376 can be obtained at $0.60 each.

• A NEW LIST of Commercial Standards revised to July 1, 1959 is now available according to Commodity Standards Division, Office

of Technical Services, U.S. Department of Commerce.

The new index lists all Commercial Standards under 22 classifications including Apparel and Apparel Sizing; Chemicals; Electrical and Mechanical Equipment; Hardware; Instruments and Tools; Heating, Ventilating and Refrigeration; Household and Hospital Supplies; Lumber and Wood Products; Millwork; Paper and Petroleum Products; Plastics; Plumbing Materials and Fixtures; Pipe and Fittings; Precious Metals; Rubber Products; Textiles; and Thermal Insulation Materials.

New standards in preparation, and existing standards being revised are shown in a supplemental list.

Single copies are available without charge upon request to the Commodity Standards Division, U. S. Department of Commerce, Washington 25, D. C. Ask for Catalog No. 978.

Emperor Caligula Insisted on Quality Valves
—Reprinted from *Chemical Engineering, July 27, 1959*

Ancient Romans built their pipes, valves, and fittings according to modern ASA and ASTM standards! This is the conclusion reached by Mario Fera (above, right), senior engineer for the Italian engineering firm, Compagnia Tecnica Industrie Petroli, S.P.A., of Rome, exhibiting in New York at last month's Fifth World Petroleum Congress.

According to Dr Fera, an 80-lb valve salvaged from one of Emperor Caligula's yachts (replica shown above) is made of a zinc-free, lead-rich, anticorrosion, antifriction tin bronze. This metal has a composition very similar to ASTM B-144-3D cast acid metal and ASTM B-144-3E antifriction bronze. The Caligula valve was found submerged at the bottom of Lake Nemi in Rome. Although 19 centuries old, it still exhibits highly polished surfaces and retains its plug tightly.

Other valves found in and about Rome and Naples are equally well preserved, Dr Fera said. One found at a reservoir in a Roman villa was used regularly until three years ago by the peasants whenever they required water for irrigation. In 1956, it was decided that the cost of the valve had been amortized, and it was replaced after 20 centuries of service.

Gaillard Seminar on Standardization

DR JOHN GAILLARD, consultant on industrial standardization, will hold his next five-day seminar on this subject in the Engineering Societies Building, New York City, from January 25 through 29, 1960. The major purpose of his seminars is to assist top managment in organizing the administrative setup and procedure for handling standardization work in the individual company, and training staff men in the functions of the standards engineer, including the art of writing specifications. So far, 405 men representing 226 organizations in the United States and five other countries have attended.

For details and registration, write to Dr John Gaillard, 135 Old Palisade Road, Fort Lee, New Jersey.

• THE 1959 EDITION of the National Electrical Code, approved as American Standard C1-1959 by the American Standards Association, includes not only many changes in substance, but also a new numbering system. Because of this new system, an appendix is included providing cross references with the 1956 edition. Sections which have been revised since then are indicated in bold face in this appendix.

The code sets up minimum requirements necessary for safety in the use of electricity for light, heat, power, radio, signals, etc, primarily in buildings.

Copies of the National Electrical Code, American Standard C1-1959, are available at $1 a copy.

• REVISIONS OF THE THREE basic American Standards for metal conduit and tubing for electrical raceway systems have been approved and published by the American Standards Association.

Of interest to contractors and other users of electrical wiring as well as to manufacturers, the three American Standards cover zinc-coated rigid steel conduit, enameled rigid steel conduit, and zinc-coated electrical metallic tubing used as raceways for the wires or cables of an electrical system. The American Iron and Steel Institute and the National Electrical Manufacturers Association sponsor this activity under ASA procedures.

ASA Sectional Committee C80, which drafted the standards, is also working on standards for conduit made of other metals. With ASA approval, the committee recently expanded its official scope to include all metals rather than limiting itself to steel as heretofore.

American Standard Specification for Rigid Steel Conduit, Zinc-Coated, C80.1-1959, covers conduit protected on the exterior surface with a metallic zinc coating and on the interior with enamel, zinc, or other equivalent corrosion-resistant coating. This conduit is furnished in nominal 10-foot lengths, threaded on each end with one coupling attached.

American Standard Specification for Rigid Steel Conduit, Enameled, C80.2-1959, covers similar conduit with enameled exterior surface rather than zinc-coated. This conduit is also furnished in nominal 10-foot lengths, threaded on each end with one coupling attached.

American Standard Specification for Electrical Metallic Tubing, Zinc Coated, C80.3-1959, covers electrical tubing of steel, supplied in nominal 10-foot lengths with plain ends.

The three standards also cover couplings, elbows, bends, and nipples as appropriate.

All three standards give tables of dimensions and weights, coatings, and identification, as well as test and inspection procedures.

A fourth publication, American Standard Specification for Fittings for Rigid Steel Conduit and Electrical Metallic Tubing, C80.4-1958, was approved and published by ASA last year.

Each of the four standards is available at 80 cents a copy.

• FREDERICK R. LACK, former president of the American Standards Association, and formerly director and vice-president of the Western Electric Company, has been elected a director of the Sprague Electric Company. Mr Lack is a Fellow of the Institute of Radio Engineers and received the Medal of Honor of the Electronic Industries Association in June 1959 for his contributions to progress in the electronics industry.

• THE COMMITTEE REPRESENTING 10 countries which was named at the closing session of the International Conference for Standards on a Common Language for Machine Searching and Translation (see MAG OF STDS. October 1959, p 299) has elected Dr Brian Vickery, Imperial Chemical Industries of Great Britain, as president. Allen Kent, associate director of the Center for Documentation and Communication Research, Western Reserve University, was elected general secretary. Vice-presidents are J. Dekker of the Netherlands, S. R. Ranganathan of India, Rudolph Bolting of Brazil and a representative, yet to be named, of the U.S.S.R. Sponsorship will be sought by the committee from existing agencies such as the International Organization for Standardization and the United Nations.

The group plans to continue the work of the conference through investigations under the four main headings of research, nomenclature, exchange of materials and information, and exchange of personnel.

• THE REVISED AMERICAN Standard Safety Code for Powered Industrial Trucks, B56.1-1959, includes a new appendix on stability tests, which describes the construction and use of a tilting platform test device for industrial trucks. Four tests can be made with this platform —longitudinal stability while stacking and while traveling, and lateral stability while stacking and while traveling.

The standard is designed to serve as a guide for state, municipal, and other governmental authorities in forming safety regulations, and for voluntary use by businesses using materials handling trucks. Previous editions have been in use since 1950. The project is sponsored by the American Society of Mechanical Engineers.

Powered industrial trucks include fork trucks, platform trucks, crane trucks, and tractors used in factories and other industrial operations, but the code does not cover over-the-road equipment or earth-moving machinery. Elements of design, operation, and maintenance of powered industrial trucks are covered. The current revision includes nomenclature changes as well as the new section on stability test criteria.

The 48-page publication covers such design and construction features as overhead guards, steering geometry, braking efficiency, and capacity ratings. Safety rules for the use of industrial trucks are included, as well as for maintenance.

The revised American Standard Safety Code for Powered Industrial Trucks, B56.1-1959, including the new appendix on stability testing, is available at $1.50 per copy.

• QUESTIONS CONCERNING the meaning of the term "current requirements" in the new minimum property standards of the Federal Housing Administration have been answered by Neil Connor, director of the Architectural Standards Division of FHA. The phrase means that American Standard Z21.22-1958, which became effective January 1, 1959, shall be used as the standard for temperature and pressure relief valves for domestic water heaters. The quesetion arose because valves made in accordance with American Standard Z21.22-1935 are still listed in the AGA Listing Requirements and will continue to be listed until the cut-off date, set as January 1, 1961. A major difference in rating is involved, since the new standard calls for steam rating rather than water rating.

The FHA standards apply only to one- and two-family living units insured by FHA.

• DRILL DRIVERS for 22 selected sizes of millimeter drills that had been added in the recently revised American Standard on twist drills, B5.12-1958, are now included in the revised edition of American Standard B5.27-1951, Drill Drivers, Split-Sleeve, Collet Type. The new edition of the drill driver standard was approved on September 23 as American Standard B5.27-1959. The range of sizes of drill drivers now includes sizes through 0.750 in. instead of 0.6875 in. as in the 1951 edition. As the result of requests, due to the increased use of the decimal dimension system, the sizes are listed both by drill size and by the decimal equivalent. Technical Committee 7 of Sectional Committee B5 will welcome comments that will help promote acceptance and use of this new American Standard, says Harry J. Moffatt, Caterpillar Tractor Company, Joliet, Illinois, chairman of Technical Committee 7.

AMERICAN STANDARDS

If your company is a member of the American Standards Association, it is entitled to receive membership service copies of these newly published American Standards. The ASA contact in your company receives a bimonthly announcement of new American Standards, which also serves as an order form. Find out who your ASA contact is and order your American Standards through him. He will make sure your company receives the membership service to which it is entitled.

As of October 20, 1959

Just Published . . .

GAS-BURNING APPLIANCES

Domestic Gas-Fired Incinerators, Z21.6b-1959 (Addenda to Z21.6-1957, Z21.6a-1958) $0.25

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for domestic gas-fired incinerators for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Central Heating Gas Applicances, Volume IV, Gravity and Fan Type Vented Recessed Heaters, Z21.13.4a-1959 (Addenda to Z21.13.4-1958) $0.20

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for gravity, and fan type vented recessed heaters for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Manually Operated Gas Valves, Z21.15a-1959 (Addenda to Z21.15-1958) $0.20

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for manually operated gas valves substantially of the plug, body, or rotating disc type.

Gas Unit Heaters, Z21.16b-1959 (Addenda to Z21.16-1957, Z21.16a-1958) $0.20

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for gas unit heaters for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Metal Connectors for Gas Appliances, Z21.24b-1959 (Addenda to Z21.24-1955, Z21.24a-1956) $0.20

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for gas appliance connectors comprised of semi-rigid metal tubing (⅜, ½, ⅝, ¾, ⅞, 1 and 1⅛ inch nominal outside diameter) or flexible all metal tubing (¼ to 1 inch nominal inside diameter) and having a fitting at each end provided with standard taper pipe threads for connection to a gas appliance and to house piping.

Gas-Fired Duct Furnaces, Z21.34a-1959 (Addenda to Z21.34-1958) $0.20

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for gas-fired duct furnaces for services with low pressure natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Gas-Fired Absorption Summer Air Conditioning Appliances, Z21.40-1959 $2.00

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for gas-fired absorption summer air conditioning appliances designed to supply conditioned air, chilled liquid or refrigerant to spaces remote from or adjacent to the appliance's location for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Sponsor: American Gas Association

MECHANICAL

Drill Drivers, Split-Sleeve, Collet-Type, B5.27-1959 (Revision of B5.27-1951) $1.00

General dimensional specifications of split-sleeve, collet-type drill drivers to secure inter-changeability of taper shank drills and reamers. A preferred taper is given for each driver along with an optional taper and in some cases a second optional taper. The taper dimensions themselves are also given.

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

PHOTOGRAPHY

Photographic Dry Plates (Inch and Centimeter Sizes), Dimensions for, PH1.-23-1959 (Revision of PH1.23-1956) $0.35

Back Window Location for Roll Film Cameras, PH3.1-1959 (Revision of PH3.1-1952) $0.35

Attachment Threads for Lens Accessories, Specifications for, PH3.12-1959 (Revision of PH3.12-1953) $0.35

Exposure-Time Markings for Shutters Used in Still Cameras, PH3.32-1959 (Revision of PH3.3-1952 and PH3.5-1952) $0.35

Aperture Markings for Still Camera Lenses, PH3.33-1959 (Revision of Z38.4.7-1950) $0.35

Projectors for Opaque Materials, Specifications for, PH3.34-1959 (Revision of Z38.7.4-1944) $0.35

Sponsor:
Photographic Standards Board

. . . *In Process*

ACOUSTICS, VIBRATION, AND MECHANICAL SHOCK

In Standards Board

Calibration of Shock and Vibration Pickups, Methods for, S2.2-

Sponsors: Acoustical Society of America; American Society of Mechanical Engineers

BUILDING AND CONSTRUCTION

American Standards Approved

Door and Frame Preparation for Mortise Door Locks, Specifications for, A115.1-1959

Door and Frame Preparation for Bored or Cylindrical Locks for 1¾-in. Doors, Specifications for, A115.2-1959

Door and Frame Preparation for Bored or Cylindrical Locks for 1⅜-in. Doors, Specifications for, A115.3-1959

Door and Frame Preparation for Lever Extension Flush Bolts, A115.4-1959

Sponsor: National Builders Hardware Association

In Standards Board

Dry-Set Portland Cement Mortar, Specification for, A118.1-

Sponsor: Tile Council of America

DRAWINGS, SYMBOLS AND ABBREVIATIONS

In Standards Board

Letter Symbols for Feedback Control Systems, Y10.13-

Sponsor: American Society of Mechanical Engineers

ELECTRIC AND ELECTRONIC

In Standards Board

Insulation Resistance of Electrical Insulating Materials, Methods of Test for, ASTM D 257-58; ASA C59.3-(Revision of ASTM D 257-54T; ASA C59.3-1955)

Woven Cotton Tapes for Electrical Purposes, Specifications for, ASTM D 335-51; ASA C59.39-

Sponsor: American Society for Testing Materials

Outlet Receptacles, Attachment Plug Caps, and Appliance Plugs, C73.1a- (Supplement to C73.1-1957)

Sponsor: National Electrical Manufacturers Association

4-Watt T-5 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.400- (Revision of C78.400-1951)

Sponsor: Electrical Standards Board

Reaffirmation Being Considered

6-Watt T-5 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.401-1951

8-Watt T-5 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.402-1951

30-Watt T-8 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.407-1951

42-Inch T-6 Instant-Start Single Pin Hot-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.801-1951

64-Inch T-6 Instant-Start Single Pin Hot-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.803-1951

8-Watt T-5 Bactericidal Lamp, Dimensional and Electrical Characteristics of, C78.1200-1951

15-Watt T-8 Bactericidal Lamp, Dimensional and Electrical Characteristics of, C78.1201-1951

30-Watt T-8 Bactericidal Lamp, Dimensional and Electrical Characteristics of, C78.1202-1951

Sponsor: Electrical Standards Board

Withdrawal Being Considered

20-Millimeter 52-Inch Cold-Cathode Fluorescent Lamp, C78.1100-1951

20-Millimeter 64-Inch Cold-Cathode Fluorescent Lamp, C78.1101-1951

20-Millimeter 76-Inch Cold-Cathode Fluorescent Lamp, C78.1102-1951

20-Millimeter 84-Inch Cold-Cathode Fluorescent Lamp, C78.1103-1951

20-Millimeter 93-Inch Cold-Cathode Fluorescent Lamp, C78.1105-1951

Sponsor: Electrical Standards Board

American Standard Withdrawn

Power-Operated Radio Receiving Appliances, Safety Standard for, C65.1-1954

Sponsor: Underwriters' Laboratories

MATERIALS HANDLING

In Board of Review

Shipping Cases for Petroleum Containers, MH7.1-

Sponsor: Petroleum Packaging Committee — Packaging Institute

In Standards Board

Metal Drums and Pails, Specifications for, MH2.1- through MH2.10- (Revision of MH2.1-1958 through MH2.10-1958)

Sponsor: Steel Shipping Container Institute

MECHANICAL

American Standard Approved

Throw-Away Carbide Inserts, Specifications for, B80.1-1959

Sponsor: Cemented Carbide Producers Association

In Board of Review

High Speed and Cast Nonferrous Single Point Tools and Tool Holders, B5.29-

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

In Standards Board

Rotating Air Cylinders and Adapters, B5.5- (Revision of B5.5-1954)

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

Reaffirmation Being Considered

Preferred Thicknesses for Uncoated Thin Flat Metals (Under 0.250 in.), B32.1-1952

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

OFFICE EQUIPMENT AND PROCEDURES

American Standards Approved

Paperwork Procedures Charting, X2.3.4-1959

Remote Dictation Through an Intercommunication Switching System, Minimum Requirements for, X2.5.21-1959

PHOTOGRAPHY

American Standard Approved

Theater Sound Test Film for 35mm Motion Picture Sound Reproducing Systems, PH22.60-1959 [Revision of PH22.60-1948 (R1953)]

Sponsor: Society of Motion Picture and Television Engineers

In Standards Board

Photographic Chemical Scales, Specifications for, PH4.27- (Partial revision of Z38.8.9-1946)

Sponsor: Photographic Standards Board

PIPE AND FITTINGS

Standard Submitted

Wrought-Steel and Wrought-Iron Pipe, B36.10- (Revision of B36.10-1950)

Sponsors: American Society for Testing Materials; American Society of Mechanical Engineers

SAFETY

American Standard Approved

Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1-1959 (Revision of Z33.1-1950)

Sponsor: National Fire Protection Association

In Board of Review

Safety Code for the Installation and Operation of Pulverized-Fuel Systems, NFPA No. 60; ASA Z12.1- (Revision of Z12.1-1959)

Safety Code for the Prevention of Dust Explosions in Starch Factories, NFPA No. 61A; ASA Z12.2- (Revision of Z12.2-1959)

Safety Code for the Prevention of Dust Explosions in Flour and Feed Mills, NFPA No. 61C; ASA Z12.3- (Revision of Z12.3-1956)

Safety Code for the Prevention of Dust Explosions in Terminal Grain Elevators, NFPA No. 61B; ASA Z12.4- (Revision of Z12.4-1956)

Safety Code for the Prevention of Dust Explosions in Woodworking Plants, NFPA No. 663; ASA Z12.5- (Revision of Z12.5-1953)

Safety Code for the Prevention of Dust Explosions in Sugar and Cocoa Pulverizing Systems, NFPA No. 62; ASA Z12.6- (Revision of Z12.6-1959)

Safety Code for the Prevention of Dust Explosions in Coal Preparation Plants, NFPA No. 653; ASA Z12.7- (Revision of Z12.7-1959)

Safety Code for the Prevention of Dust Explosions in Wood Flour Manufacturing Establishments, NFPA No. 662; ASA Z12.8- (Revision of Z12.8-1946)

Safety Code for the Prevention of Dust Ignitions in Spice Grinding Plants, NFPA No. 656; ASA Z12.9- (Revision of Z12.9-1953)

Safety Code for the Prevention of Dust Explosions in the Manufacture of Aluminum Bronze Powder, NFPA No. 651; ASA Z12.11- (Revision of Z12.-11-1953)

Safety Code for the Prevention of Sulfur Fires and Explosions, NFPA No. 655; ASA Z12.12- (Revision of Z12.12-1950)

Safety Code for the Prevention of Dust Ignitions in Country Grain Elevators, NFPA No. 64; ASA Z12.13- (Revision of Z12.13-1956)

Safety Code for Explosion and Fire Protection in Plants Producing or Handling Magnesium Powder or Dust, NFPA No. 652; ASA Z12.15- (Revision of Z12.15-1953)

Safety Code for the Prevention of Dust Explosions in the Plastics Industry, NFPA No. 654; ASA Z12.16- (Revision of Z12.16-1946)

Safety Code for the Prevention of Dust Explosions in Confectionery Manufacturing Plants, NFPA No. 657; ASA Z12.18- (Revision of Z12.18-1953)

Safety Code for Processing and Finishing of Aluminum, NFPA No. 65; ASA Z12.19-

Sponsor: National Fire Protection Association

In Standards Board

Safety Code for Head, Eye, and Respiratory Protection, Z2.1- (Revision of Z2-1938)

Sponsors: National Bureau of Standards; U.S. Department of the Navy; U.S. Bureau of Mines

Reaffirmation Approved

Safety Code for Mills and Calenders in the Rubber Industry, B28.1-1949 (R1959)

Sponsor: National Safety Council

NEWS ABOUT AMERICAN STANDARDS PROJECTS

Roller Turner Tools, B81; Carbide Tipped Masonry Drills and Blanks for Carbide Tipped Masonry Drills, B82; Standard Blanks for Carbide Burs, B83; Standard Sizes of Blanks for Carbide Tipped Gun Drills, B84—

Four proposed standards for carbide tools have been submitted to the American Standards Association for approval under the Existing Standards Method. A canvass of those concerned is now being made by ASA to determine whether the technical content is acceptable. All four proposals were submitted by the Cemented Carbide Producers Association.

Standardization of Pallets, MH1—

Sponsors: American Society of Mechanical Engineers; Society of Packaging and Handling Engineers

Jack A. Moore, field research engineer, Package Research Laboratory, Rockaway, N. J., has just taken office as secretary of Sectional Committee MH1. Mr Moore has been associated with the wirebound container industry for 19 years. For 13 of the 19 he has been working in fundamental research, design, testing, and sales engineering at the Package Research Laboratory. He has served as vice-president, materials handling, and as chairman of the Shipping Data Technical Committee of the Eastern Chapter, Society of Packaging and Handling Engineers. He is also a member of the American Material Handling Society and of the Packaging Division, American Management Association.

Jack A. Moore

In addition to the American Standard on pallet sizes just completed, other phases of the subject are being worked on by MH1 subcommittees, Mr Moore reports. The Definitions Subcommittee, with Glen Johnson as chairman, has drafted a set of definitions which is being discussed by the committee. The Testing Subcommittee has made an impressive study of the drum method of testing pallets. The committee is planning a meeting for October 29, at which reports of the technical subcommittees will be presented and a review of current international activity in standardization of pallets will be considered.

Minimum Requirements for Plumbing, A40—

Sponsors: Building Officials Conference of America; American Public Health Association; National Association of Plumbing Contractors

Representatives of the three sponsor organizations met in Chicago, September 28 to discuss a proposed revision of the American Standard National Plumbing Code, A40.8-1955. *In the picture*, left to right, are Francis B. Elder, engineering associate, American Public Health Association, New York; F. C. Frost, civil engineer, American Standards Association; Harry L. Stevens, chairman, Plumbing Standards Division of Technical Department, National Association of Plumbing Contractors, Hutchinson, Kansas; and Paul E. Baseler, executive secretary, Building Officials Conference of America, Chicago.

Methods of Recording and Compiling Accident Statistics, Z16—

Sponsors: National Safety Council; Association of Casualty and Surety Companies —Accident Prevention Department

Having agreed to recommend reaffirmation of the American Standard Method of Measuring and Recording Work Injury Experience, Z16.1-1954 (now reaffirmed and identified as Z16.1-1954 (R1959), the committee at the same time de-

cided to start work immediately toward a possible revision of the standard. Four subcommittees have been set up to consider possible need for changes in the standard concerning: (1) delayed reaction cases; (2) heart attack cases; (3) back-injury cases; and (4) light duty cases.

Loading Platforms at Freight Terminals and Warehouses, MH8—

A proposal on the heights and clearances for loading platforms at motor freight docks is being considered under the procedures of the American Standards Association. The proposal was submitted by the Operations Council of the American Trucking Associations for approval by ASA under the Existing Standards Method. A canvass of groups interested in the subject is now under way to determine whether they approve the technical content of the proposed standard.

Electrical Insulating Materials, C59—

Sponsor: American Society for Testing Materials

Through the efforts of Subcommittee 1 on Thermal Capability and the Electrical Insulation Committee of the American Institute of Electrical Engineers, two uniform graph sheets have been made available to help in reporting the thermal endurance of insulating materials and systems. These are for use in reporting on a logarithmic time versus a reciprocal absolute temperature scale. Interest in this method has been growing during the past few years, it is reported. In many cases such data follow quite closely the chemical reaction rate theory and a straight line plot results.

The uniform graph sheets will allow greater uniformity and easier comparison of the data presented, reports K. N. Mathes, vice-chairman of Sectional Committee C59 and chairman of the AIEE Electrical Insulation Committee. In both sheets, time (t) from 10 to 100,000 is plotted vertically. In one (sheet 259-270G) temperature from 100 to 300 C is plotted horizontally and in the other (359-271G) temperature is plotted horizontally from 100 to 400 C. The graph sheets have been made available by the Keuffel and Esser Company, Hoboken, New Jersey, on behalf of the two committees.

Safety Code for the Prevention of Dust Explosions, Z12—

Sponsor: National Fire Protection Association

Most of the standards for which this committee is responsible have been recently revised, under the chairmanship of Dr Hylton R. Brown. Dr Brown, chairman of the committee since 1952, announced his retirement in August. He had represented the National Fire Protection Association on the committee and also on Sectional Committee B20, Safety Code for Conveyors and Related Equipment. At the time of his retirement he was senior engineer, Bureau of Mines, U.S. Department of the Interior. He has represented the Bureau on Sectional Committee Z9, Safety Code for Exhaust Systems, and on Sectional Committee Z37, Allowable Concentrations of Toxic Dusts and Gases since 1949.

Photo: Ashley & Crippen

C. G. Gibson

C. G. Gibson, director of technical services, Department of Labor, Province of Ontario, Toronto, replaces Mr Brown as chairman of Sectional Committee Z12. Mr Gibson has been with the Ontario Department of Labor since 1936, when he starter as an inspector. Since 1954 he has served as technical consultant and more recently as director of technical services and has had responsibility for directing and coordinating the functions of factory inspection, elevator inspection, boiler inspection, and the operating engineer's branches of the Department. Mr Gibson is well known in the Canadian grain industry as a result of investigations of major grain elevator explosions at Port Arthur. He drafted regulations for terminal grain elevators which became law in Ontario in 1946. He is an active technical committee member of the Canadian Standards Association, and works on the National Building Code, as well as in both the Canadian and International Associations of Governmental Labor Officials.

Mr Gibson reports that he expects the American Standard safety codes for dust explosions to be kept under review and that revisions will be made when found necessary. Two codes, the one on woodworking plants and the one on wood flour manufacturing are under revision at present. A meeting of the committee will be held in New York in January to consider its future program.

Bolts, Nuts, Rivets, Screws, and Similar Fasteners, B18—

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Report from Frederick W. Helming, Sr, works manager, The Bristol Company, chairman of Subcommittee 9

A great deal of confusion exists regarding the recently announced industry standard for socket head cap screws. This will attempt to explain briefly what the major changes are and why they were made.

The most important changes made were in head diameters on some sizes. Sizes from No. 0 through ¼-inch diameter, as well as ⅜-inch and ½-inch diameter, still have the same head diameters as shown in American Standard B18.3 - 1954. Sizes 5/16, 7/16, and 5/8-inch through 1½-inch diameter now have larger head diameters than shown in the American Standard. The next most important changes were in regard to socket sizes. Many of the sizes now have larger sockets than those shown in the American Standard.

The changes in head diameters were brought about by the many complaints received by the manu-

facturers that the bearing surface under the head on many sizes was inadequate. Also, many customers have been ordering special screws with oversize heads to obtain sufficient bearing surface.

Examination of the current standard, American Standard B18.3-1954, Socket Head Cap Screws and Socket Set Screws, will show that the head diameters for sizes ¼-inch, ⅜-inch and ½-inch are 1½ times the body diameter. All other fractional sizes do not have this proportion between head and body, but the proportion ranges from 1.3 to 1.4 times the body diameter.

The socket changes were made to provide more adequate torquing. Some of the smaller sizes of screws, with sockets in accordance with the present American Standard were considered adequate several years ago. However, under present-day conditions where requirements are very severe and many plated screws are used, it was felt that proper torquing under all conditions could only be met by providing larger sockets.

Other changes were made that might be considered as minor, but are intended to provide a product that will meet today's requirements most economically.

It should be clearly understood that, at the present time, this is simply a development by the socket screw industry to try to meet the demands made by industry. Socket head cap screws will be made to American Standard B18.3-1954, as standard items, until such time as this standard is revised. The new industry standard will be presented to the American Standards Association in the near future for consideration as a revision of B18.3-1954.

Mobile Homes and Travel Trailers, A119—

Sponsors: Mobile Homes Manufacturers Association; Trailer Coach Association

The Construction Standards Board has authorized formation of a new sectional committee to develop uniform standards which will serve the needs of the makers of mobile homes and trailers, the communities which must accommodate these units, and the owners of mobile homes. The sponsor organizations are planning to call a meeting for organization of the committee in the near future.

by **Cyril Ainsworth**

DINNSA

(Does Industry Need a National Standards Agency?)

AS MEMBERSHIP IN ASA WIDENED, questions were raised concerning the use of the Sectional Committee Method for review of standards developed by national organizations.

In the opinion of some, the Sectional Committee Method frequently duplicated the procedures of the originating organizations. Also, while effective in the case of standards developed by committees limited in membership, in their opinion it failed in other cases to recognize the high degree of acceptance obtained by the originating group. The reasoning behind these criticisms was impressive enough for ASA members to agree that a new method should be considered. This resulted in creating what was first called the R4 Method, now the Existing Standards Method.

A large proportion of the 1,800 American Standards have been approved under the Existing Standards Method. Most of this group were developed by the American Society for Testing Materials. The method prescribes that approval by ASA is based upon consideration of information furnished by the submitting organization on (1) Acceptance by those substantially concerned; (2) History of the standard; (3) Method by which the standard was formulated; (4) Extent of use; and (5) Relation to other projects in its field. If the information on these points is not complete, ASA makes the appropriate investigation. ASA prescribes the method by which revisions shall be made and, if deemed appropriate, assigns sponsorship for revisions to the submitting organization.

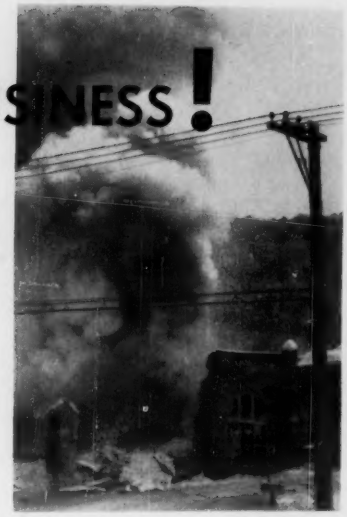
Submitting organizations are required to furnish the information needed by ASA to determine the existence of a national consensus on acceptance of a standard. ASA approval can only be granted if such a consensus is found. There is a fundamental difference between this and the Sectional Committee Method. It is not essential that all groups substantially concerned have membership on the technical committee of the organization responsible for formulation of a standard submitted for approval by ASA. It is essential, however, that evidence be presented that all such groups have been given an opportunity to review the standard and to have their points of view considered by the committee.

It should be remembered that "the right to representation on the body dealing with the standard" was first written into ASA procedure in terms of the Sectional Committee Method. In broadening the application of basic principles to other methods, ASA did not intend to sit in judgment on the organizational work of other bodies and instruct as to the membership of their committees. However, under its Existing Standards Method ASA has established the rules for applying the principle of representation. Under such rules, it is necessary for submitting organizations to advise as to the steps taken to obtain the assent of all groups substantially concerned.

Thousands of standards in use in this country are suitable for approval as American Standard under the Existing Standards Method. Those who read this column are urged to encourage use of ASA machinery to obtain highest possible status for them, and to assure that they are known and available to all concerned.

SAFETY

IS *EVERY* COMPANY'S BUSINESS!



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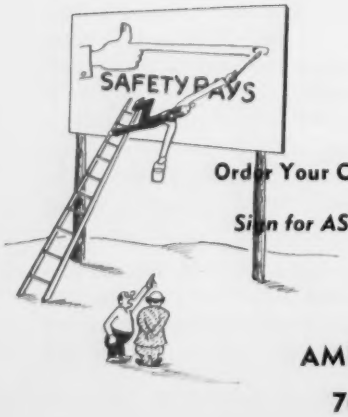

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